INDUSTRIAL EQUIPMENT NEWS

FEBRUARY - 1952
VOL. 20 • NO. 2

The Original IEN FOUNDED 1933

INDUSTRY'S MOST COMPLETE PRODUCT INFORMATION SERVICE

What's New IN EQUIPMENT, PARTS, MATERIALS

AFFILIATED WITH THOMAS REGISTER OF AMERICAN MANUFACTURERS

Product Information for specifiers and buyers in all industries

BREVITY—Identify by IEN - 1096 if you write the maker

SOLDERING . . Motor driven gun feeds and melts solder or brazing wire

Source: METALLIZING CO. OF AMERICA
3518-22 W. Carroll Ave., Chicago 24, Ill.

About $1,000

Mogul Gun trade names new variable-speed motor-driven equipment that takes solder or brazing material in wire form, feeds it downward through the center of a conical flame, melts it to a liquid or semi-liquid state and then deposits it on work being fed beneath the nozzle at speeds to 200 fpm. The metal is deposited accurately and in precise quantity to effect major savings in materials as compared to hand soldering. Continuous-seam or skip operation can be set up.

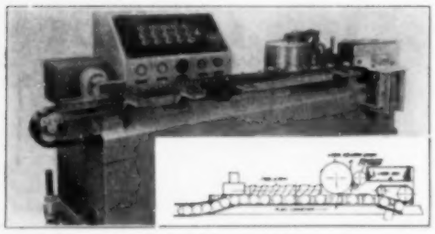
An installation employing the suspended gun is shown in the illustration in which a container is being soldered at a steady controlled rate in a fixture supplied by the user. In this case pre-heating is provided also by a torch secured to the gun barrel ahead of the point where the solder deposits. An alternate arrangement would employ the pre-heat flame in a permanent set-up supplied by the user in connection with his soldering or brazing fixture.

The gun uses natural or manufactured gas, air or oxygen for soldering. It calls for natural or manufactured gas, propane gas or acetylene and oxygen for brazing. It takes wire in diameters ranging from $\frac{1}{16}$ to $\frac{3}{16}$ inch. The company offers engineering assistance to adapt the gun for given work.

BREVITY—Identify by IEN - 1097 if you write the maker

PACKAGING . . Automatic machine places paper-plastic labels on bottles

Source: NEW JERSEY MACHINE CORP.
1550 Willow Ave., Hoboken, N. J.



No glue, no muss, no hold up

Champion Model 160 is a new automatic assembly in the company's line of labeling machines. It positions labels faced with thermoplastic that is dry and non-sticky until the machine electrically heats it just prior to application. The plastic then is extremely tacky to provide first-class bond to its bottle. The machine will handle labels ranging from 1¼ by ½ in. to 5 by 6 in. at operating speed from 75 to 300 units per minute. The glue problem is completely eliminated.

Bottles feed to a conveyor chain from the left to ride between a guide rail and a feed screw. The screw serves to space them so they will move forward in registering position with a heated label-delivery drum at the end of the screw.

Labels are fed to this drum from a label box by a transfer cylinder. They are held in place on the drum by suction at their leading edges as the drum rotates. As each bottle comes into registering position with the leading edge of its label, the suction changes to positive pressure and the label is blown against the bottle.

In the meantime the electric heat in the drum has softened the plastic face of the label so it sticks to the bottle and moves forward with it until the bottle passes between a second side guide and a pressure belt. At this point the bottle is caused to roll with the label so the label is wiped onto the bottle surface in thoroughly adhered condition. Labeled bottles issue from the machine at the right-hand side ready for packaging in cartons or other containers.

Want to know a company that can organize your whole scrap problem?

BREVITY—Identify by IEN - 1098 if you write the maker

CONVEYING . . Pneumatic tubes carry paper messages to 32 points

Source: INTERNATIONAL TELEPHONE & TELEGRAPH CO.
67 Broad St., 30th Floor, New York 4, N. Y.

Messages ride on air

Initial installation has been made in the United States of pneumatic conveying equipment, developed by the company's German subsidiary, to transport paper messages by air flow at high speed through rectangular tubes. The tubes are made of brass with longitudinal corrugations and outside dimensions of 2¾ by ⅝ inch. They connect between a dispatching station mounted in a desk top and indicator-equipped receiving stations at the separate points in a record-filing and reporting department.

Messages are received by the dispatcher over a conveyor belt from telephone clerks who write upon them their requests for information. The dispatcher folds up one corner of each message to form a sail and then inserts the message into a slot corresponding to the noted identification. Immediately it is blown to its receiving station where the file clerk picks it up, reads it, finds the requested information, attaches this information to the original message and places it upon a conveyor belt for return to its originating point.

The company is prepared to design and install the equipment to meet given requirements.

BREVITY—Identify by IEN - 1099 if you write the maker

DRAFTING . . Pencil tracing cloth with liquid eradicator to make changes

Source: FREDERICK POST CO.
3652 N. Avondale Ave., Chicago 18, Ill.

Sample test kit upon request

Whitex Smooth No. 120 is a new tracing cloth with a pleasing white background and excellent "see-through" to make tracings with a 2H pencil or with ink. The pencil will produce sharp, legible lines for print reproduction. An accompanying Liquidator fluid can be employed to "erase" large areas of pencil lines without affecting the cloth surface.

Available widths are 30, 36 and 42 in. in 20-yd. rolls. List price is $31.90, $36.10 and $43.60. The Liquidator is packaged in 2-oz., pints and quarts at 75 cents, $2.25 and $3.50.

BREVITY—Identify by IEN - 1100 if you write the maker

TUBE . . Made of aluminum, ⅛ to ¾ in., can be bent, formed

Source: ALUMINUM CO. OF AMERICA
670 Dept. 22, Gulf Bldg., Pittsburgh 22, Pa.

Detailed in Utilitube booklet

Utilitube trade names a new general-purpose tube made of Alcoa alloy B50S-0. It is suitable for use in fuel oil, gasoline and lubricating oil lines to internal combustion engines, fuel lines to stoves and heaters, and air, hydraulic and vacuum lines for brakes and instruments. It will handle kerosene, cutting compounds, refrigerants, the latter with the exception of methyl chloride.

Length ranges to 1,000 ft. in coil form depending on size. Cost is less per foot than for copper and other strong aluminum alloys. Flaring and forming characteristics are both good. The tube can be bent repeatedly without work hardening. It has excellent resistance to vibration and is not subject to corrosion under a variety of conditions. Its mechanical properties improve at temperatures minus 320 deg. F.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

PRODUCT INFORMATION IS MORE VITAL NOW THAN EVER

WHAT DO YOU NEED?

READER SERVICE FORM . . . Look between pages 16 and 17 or 96 and 97 and "lift" the form you find there. Keep it beside you as you look through the pages. Note on it the numbers of the products on which you want further information. Then either mail it to us, so we can forward your requests to the manufacturers, or use it as your guide to write direct.

From a Deputy Engineer

"Every copy of IEN is thoroughly combed in our office and then is sent to our shop for use there. It gives us the largest detail list of equipment of all publications received by us."

Departments

READER SERVICE FORM — Pages 16-17 and 96-97
To assist you in securing the information you want

SUBJECT INDEX — Pages 109-111
With our four-step suggestion on how to use it

I'M THE ENGINEER — Page 4
How a manufacturer can answer product information inquiries

NEWS NOTES — Page 24
Reviews of unusually helpful literature and services

NEW LITERATURE — Page 76
Condensed reviews of current manufacturers' catalogs

IDEAS FOR YOU — Page 56
Items of current news interest to keep you posted

"I WISH I HAD" — Page 112
Requests we cannot answer, printed in the hope you can

Our Selections in This Issue

BENDING — Page 61
Rolling table machine to stretch form sheet metal parts

BRUSH — Page 18
Wheel design employs wire bristles set in rubber

DEFENSE PRODUCTION — Page 23
Quarterly report by Director of Defense Mobilization

DOOR OPERATOR — Page 7
Pneumatic unit, floor antenna for electronic control

DRYING — Page 107
Vacuum equipment sublimes moisture from frozen materials

FASTENING — Page 2
Split cylindrical pin to key, pin, bush assemblies

MARKING — Page 93
Printed plastic sheet adheres removably to surface

PACKAGING — Page 104
Automatic machine feeds, wraps, stamps and addresses

PHOTOGRAPHING — Page 28
Sound film on high speed motion picture photography

SIGNALING — Page 21
Air electric alarm operates on temperature rate of rise

TESTING — Page 79
Pneumatic unit checks 5 to 55 gal. drums for leakers

WEIGHING — Page 16
Tank filling control is actuated by Baldwin load cells

W. E. Tisch, Editor & V. Pres.
F. Morr. Smith, V. Pres. in Charge

THOMAS PUBLISHING COMPANY
461 - 8th Ave., New York 1, N. Y.— LOngacre3-1546

HELP TO CONSERVE PAPER
MAKE THIS ISSUE DO DOUBLE WORK
FILL IN AND SEND ALONG TO OTHERS
INTERESTED IN PRODUCT INFORMATION

- ☐ Plant Operating Mr. _____
- ☐ Production Mr. _____
- ☐ Engineering Mr. _____
- ☐ Product Design Mr. _____
- ☐ Purchasing Mr. _____
- ☐ _____

▼ BREVITY—identify by IEN - 1101 if you write the maker ▼

Over forty years of Bearing research
—and creative engineering
make New Departure Ball Bearings
top performers in modern machinery . . .

Nothing Rolls Like a Ball

NEW DEPARTURE
BALL BEARINGS

▼ BREVITY—identify by IEN - 1102 if you write the maker ▼

FREE! 32-PAGE HANDBOOK
SHOWS HOW TO STOP CONDENSATION DRIP

NoDrip

Stops Drip from:
- ✓ Cold water pipes
- ✓ Water filter tanks
- ✓ Metal or concrete ceilings
- ✓ Basement walls
- ✓ Condensers
- ✓ Air Ducts
- ✓ Blower pipes
- ✓ Dust Collectors
- ✓ Crystallizers

Learn how you can control condensation drip from pipes, tanks, ceilings—from metal, wood or masonry surfaces.

LOW COST — EASY TO APPLY

Anyone can apply NoDrip, the triple-duty insulation type coating. Brush it on or spray it on. Use it on pipes or equipment where temperature differences cause condensation. Save money by preventing rust and corrosion. Deaden sound, decrease vibration on metal ducts or pipes.

HANDBOOK SHOWS HOW

Send today for your copy of the NoDrip HANDBOOK which tells what this plastic-cork material can do for you. It's the modern solution to condensation drip problems.

Send for your Free Handbook Now!

J. W. MORTELL CO.
Technical Coatings Since 1895
Dept. IE, Kankakee, Ill.

▼ BREVITY—identify by IEN - 1103 if you write the maker ▼

METAL FABRICATION PROBLEMS?

VERSATILE RIGIDIZED METALS can be used to advantage in nearly every industry. Design engineers have used its high strength and light weight in products throughout the railroad, aircraft, automotive, electrical, home appliance, architectural, radio, military, and industrial equipment fields.

RIGIDIZED METAL is used extensively because it is three-dimensional, design strengthened and textured to conceal wear and tear, reduce maintenance costs, resist impact, conceive noise and minimize buckling. It can be fabricated by all usual methods. Any way you use RIGIDIZED METAL, you'll find it an important contributor to the value of your product.

WRITE on your company letterhead for a copy of the RIGIDIZED METALS CONSERVATION HANDBOOK today.

U.S. & Foreign Patents

Rigidized Metals Corporation

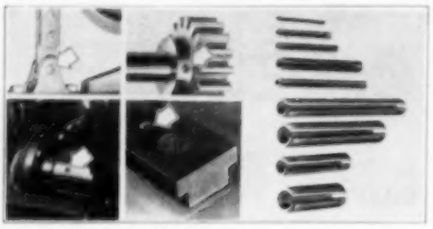
6642 OHIO STREET BUFFALO 3, N. Y. CABLE ADDRESS: RIGIDIZED

Offices in Principal Cities in the U. S. and Canada

▼ BREVITY—identify by IEN - 1104 if you write the maker ▼

FASTENING . . Split cylindrical pin to key, pin, bush equipment assemblies

Source: SELF LOCK FASTENER CORP.
249 Stephens St., Belleville 9, N. J.



Samples and technical data on request

Sel-Lok Spring Pin is a new development in the company's line of industrial products. It is designed to apply in a drilled hole to secure assembled parts in place. The pin provides radial spring action to compensate for normal differences in drilled diameters. It grips in the hole against the loosening action of vibration. It absorbs shock loading. It takes the place of solid dowels or taper pins both of which require reamed holes. It applies in service as a key in axial position between a shaft and a mounted part. It serves as a locating means for stationary as well as moving parts and as a pivot bearing when one pin is employed inside another. It can be removed and applied repeatedly.

Carbon-steel or stainless-steel strip stock is formed to cylindrical shape with the edges forming a slot opening on one side. The formed piece is cut to length and chamfered on both ends for hammer or press assembly. The steel is given a spring heat treatment and diameter is set so each pin will be contracted several thousandths when it is inserted in its nominal-diameter hole.

Seven nominal diameters in the stock line at present range from 0.062 to 0.250 inch. The smallest is in nine lengths from 0.250 to 0.750 inch. The largest measures 0.625 to 3.500 in 21 lengths. Special sizes are available on quantity order.

Two stock thicknesses are known as light and standard. The former is recommended where shear strength is not a factor and where unlike materials are to be assembled such as brass or aluminum to steel, glass or plastic to metal. Standard thickness develops in the tubular pin the same shear strength as a mild steel solid pin of the same size. A third, heavy-duty thickness, can be specified where shear strength is the determining factor.

Blue-black oil finish is standard on the carbon-steel pins. A distinguishing bright grey finishes the stainless-steel units. Cadmium or zinc plating can be specified.

▼ BREVITY—identify by IEN - 1105 if you write the maker ▼

STRAPPING . . Reinforced paper tape straps products for handling, shipping

Source: BEHR-MANNING CORP.
P. O. Box 808-A, Troy, N. Y.

Available in 60 yd. rolls

Behr-Cat No. 211 is a new self-adhesive paper tape reinforced with glass filaments for strapping, packaging, banding and carton sealing. Odd-shaped and contoured containers can be securely closed. The tape adheres to both porous and smooth surfaces. Widths range from ¼ to 27 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 90

▼ BREVITY—identify by IEN - 1106 if you write the maker ▼

DUFF-NORTON
Traversing Bases

Heavy machinery and equipment can be shifted with ease by means of Duff-Norton Traversing Bases. Used with or without screw and ratchet type jacks, loads can be moved horizontally up to 20'. You should have a set of these bases in your plant. Investigate the savings they make possible.

HOLDS AND MOVES LOADS UP TO 100 TONS

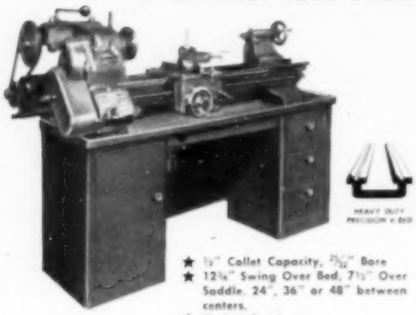
IN EITHER DIRECTION

Write today for Bulletin AD-4G.

THE DUFF-NORTON MANUFACTURING CO.
Main Plant and General Offices: PITTSBURGH 30, PA.—Canadian Plant: TORONTO 6, ONT.
"The House that Jacks Built"

▼ BREVITY—identify by IEN - 1107 if you write the maker ▼

ANNOUNCING
***Atlas* CLAUSING**
12" LATHES—4800 SERIES



- ★ ½" Collet Capacity, 25/32" Bore
- ★ 12¼" Swing Over Bed, 7½" Over Saddle, 24", 36" or 48" between centers.
- ★ Timken Bearings

This is one of America's finest lathes for precision work in your tool room or on the production line. It provides construction and performance features never before combined in a 12" lathe of moderate price. Ask for catalog.

ATLAS PRESS COMPANY
291 N. PITCHER STREET
KALAMAZOO, MICHIGAN

Atlas DEPENDABLE QUALITY TOOLS SINCE 1911

▼ BREVITY—identify by IEN - 1108 if you write the maker ▼

TRIGGER-QUICK

For split-second action . . . pull the trigger on a Kidde CO_2 portable fire extinguisher. Flame-smothering carbon dioxide blankets the fire . . . kills it instantly.

Walter Kidde & Company, Inc.
236 Main St., Belleville 9, N. J.

Kidde

▼ BREVITY—identify by IEN - 1109 if you write the maker ▼

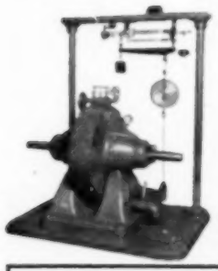
THIS NEW BULLETIN WILL HELP YOU PICK THE RIGHT HEATING METHOD

The heating method you use for a specific silver alloy brazing job, is a main factor in determining joint quality and brazing time, labor and cost. The bulletin outlines the different heating methods and the type of brazing jobs for which each is best suited. It will aid you in making the right choice. WRITE today for a free copy. Ask for BRAZING NEWS No. 56.

HANDY & HARMAN 82 Fulton St., New York 38, N. Y.
Agents in Principal Cities. In Canada: HANDY & HARMAN of Canada, Ltd., Toronto

BREVITY—Identify by IEN - 1110 if you write the maker

Hydraulic Dynamometers



for EXACT PERFORMANCE DATA on prime movers

HI-EFF

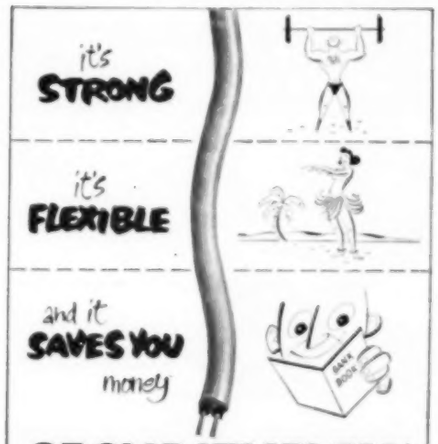
Write for Bulletin No. 760

You can depend on the performance data taken from a Taylor "HI-EFF" Hydraulic Dynamometer. Efficient, compact Taylor "HI-EFF" offers the most economical investment and maintenance cost per hour. 72 different capacity models each with wide range of h.p. and speed. Capacities from fractional to 10,000 h.p. Speeds from 0 to 25,000 r.p.m. Reversible if desired. Taylor engineers will be glad to make recommendations.

Dynamometers • Static Balancers • Precision Drilling Machines

TAYLOR DYNAMOMETER & MACHINE CO.
528 N. WEST HIGHLAND AVENUE MILWAUKEE 3, WIS.

BREVITY—Identify by IEN - 1111 if you write the maker



SECURITYFLEX*
PORTABLE CORD

Anaconda Wire & Cable Company, 25 Broadway, New York 4, N. Y.

the right cable for the job
ANACONDA®
WIRE AND CABLE

*Trademark

BREVITY—Identify by IEN - 1112 if you write the maker

BROWNING
First Again!
WITH "UNBREAKABLE" MALLEABLE IRON SPLIT TAPER BUSHINGS

in BROWNING GRIPBELT SHEAVES

FLEXIBLE AND RIGID COUPLINGS and BROWNING PAPER PULLEYS

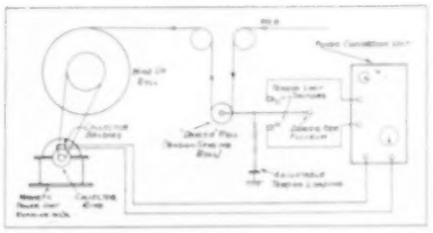
Write for the name of the BROWNING distributor near you

BROWNING MANUFACTURING COMPANY
MAYSVILLE, KENTUCKY, U. S. A.

BREVITY—Identify by IEN - 1113 if you write the maker

CONTROL . . Electronic equipment regulates tension in winding operation

Source: CADCENE MACHINERY CO.
73-77 McLean Blvd., Paterson 4, N. J.



Company designs, builds, installs

Constant tension is set and maintained by the company's new electronic control on equipment employed in winding or unwinding rolls of web materials such as film, paper, textiles, rubber, foil, or filaments such as yarn, wire. The control mounts on the processing machine, is supplied to meet given service requirements in a tension range from zero to several pounds per inch of web width. It is available also for tensions requiring torque as high as 1,800 foot pounds. Adjustments are made at a power-conversion unit that can be mounted remotely.

Control action is actuated by a "dancer" roll that rides in a loop of the web or filament formed by movement over two stationary idler rolls between the point of origin and the wind-up roll on a winding operation as shown in the schematic diagram. Loading is applied adjustably to the dancer roll by suitable means to move the roll down as tension tends to decrease and to resist movement upward on increasing tension in the web.

The dancer movement is employed to feed variable low-voltage dc. to an oil-immersed electro-magnetic clutch for wind-up control or a brake for unwind action. The clutch or brake is in the drive assembly of the machine.

BREVITY—Identify by IEN - 1114 if you write the maker

THERMOMETER . . Resistance design indicating, controlling, to 300 deg. F.

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.

For process control

Permanent magnet and a coil-type moving element make up the mechanism of this new electric resistance thermometer. It is available for temperatures ranging from minus 100 deg. to plus 300 deg. F. It is made in three basic types known as HP-11, 13 and 14. The first is an indicating instrument. The second is a two-position controller. The third is a three-position controller. Each is designed for flush or surface mounting and is enclosed in a dust-tight moisture-resistant case and cover.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 60

BREVITY—Identify by IEN - 1115 if you write the maker

SAFETY EQUIPMENT FOR ALL INDUSTRIES

IPCO LAMP CHANGERS

PRACTICAL • TIME SAVING • PREVENTS PERSONAL INJURIES

FOR CEILINGS, SIDE WALLS, ELECTRIC SIGNS, ETC. • HEAD ADJUSTS TO ANY ANGLE

Designed to remove and replace lamp bulbs in high and out of way places . . . Works like human hands on the end of a pole . . . Handles lamps up to 500 watt; pole lengths 6', 12' and 18'.

Write for Bulletin F-22

IPCO Safety Equipment for all Industries
INDUSTRIAL PRODUCTS COMPANY
2801 N. FOURTH STREET • PHILADELPHIA 33, PA.

BREVITY—Identify by IEN - 1116 if you write the maker

LUBRICATION ECONOMY

LUBRIPLATE LUBRICANT Increased Bearing Life from 2 Weeks to 2 Years!

So says The Globe Company, manufacturer of meat processing machinery. "In the packing industry where animal acids and moisture quickly destroy antifriction bearings fabricated with conventional lubricants, LUBRIPLATE prolongs the life of bearings from 2 weeks to 2 years."

1. LUBRIPLATE reduces friction and wear
2. LUBRIPLATE prevents rust and corrosion
3. LUBRIPLATE is economical to use

Write today for case histories of savings made through the use of LUBRIPLATE in your industry.

LUBRIPLATE DIVISION
Fiske Brothers Refining Co.
Newark 5, N. J. Toledo 5, Ohio

The Different LUBRICANT!

DEALERS EVERYWHERE, consult your Classified Telephone Book

BREVITY—Identify by IEN - 1117 if you write the maker

TURNOVER LIKE THIS COSTS YOU MONEY!

Spilled loads, trucking delays, underfoot hazards are costly. There's no substitute for a *real* heavy-duty floor—and that means concrete, *good* concrete.

Rebuild worn-out floors over week-end (no plant tie-up) with 'Incor' 24-Hour Cement—ready to use in 24 hours, saves a week or more. Faster thorough 'Incor'* curing means stronger, longer-lasting floors.

Write for booklet, "Heavy-Duty Floors"—address Lone Star Cement Corporation, 100 Park Avenue, New York 17.

*Reg. U. S. Pat. Off.

LONE STAR CEMENT CORPORATION

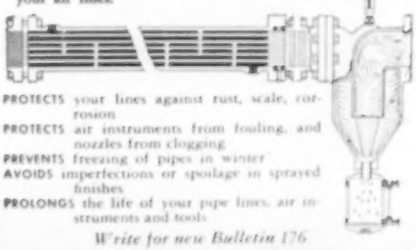
Offices: Abilene, Tex. • Albany, N. Y. • Bethlehem, Pa. • Birmingham • Boston Chicago • Dallas • Houston • Indianapolis • Kansas City, Mo. • New Orleans New York • Norfolk • Philadelphia • Richmond • St. Louis • Washington, D. C.

BREVITY—Identify by IEN - 1118 if you write the maker

You Can be Sure of Clean Dry Air for your Compressed Air Tools with ADAMS Aftercooler and Cyclone Separator

3500 Gallons
1 YEAR'S water extraction from air lines equipped with Adams Aftercooler and Cyclone Separator

• Reducing compressed air temperature to within 10° of the cooling water, Adams Equipment condenses and removes destructive water and oil vapors from your air lines.



PROTECTS your lines against rust, scale, corrosion
PROTECTS air instruments from fouling, and nozzles from clogging
PREVENTS freezing of pipes in winter
AVOIDS imperfections or spoilage in sprayed finishes
PROLONGS the life of your pipe lines, air instruments and tools

Write for new Bulletin 176

R. P. ADAMS CO., INC. 219 E. PARK DRIVE, BUFFALO 17, N. Y.

▼ BREVITY—identify by IEN - 1119 if you write the maker ▼

WHAT ABOUT STRESS RAISERS ?
This book gives the answers . .

How to avoid the localized stresses which start failure is a basic problem of design. This 72 page booklet analyzes many good and bad features of design. It also deals with problems of steel selection and treatment from the viewpoint of the design engineer—instead of the metallurgist.

Write for "3 Keys to Satisfaction"—it is free.

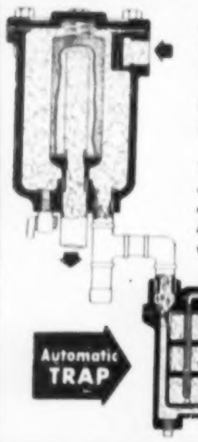
good design
good steel
good treatment
= satisfaction

This booklet sent to you FREE

Climax Molybdenum Company
500 Fifth Avenue · New York City

▼ BREVITY—identify by IEN - 1120 if you write the maker ▼

Poro-Stone Filtration
FOR COMPRESSED AIR



EFFICIENTLY REMOVES

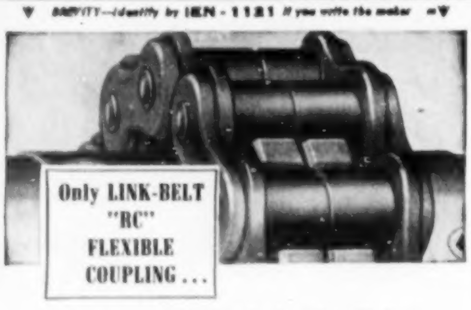
OIL, WATER PIPE SCALE

The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 176.

R. P. ADAMS CO., INC.
219 E. Park Dr., Buffalo 17, N. Y.

ADAMS *Poro-Stone* **AIR FILTER**

▼ BREVITY—identify by IEN - 1121 if you write the maker ▼



Only LINK-BELT "RC" FLEXIBLE COUPLING . . .

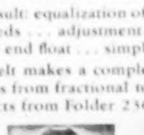
gives you single-chain simplicity plus divided rollers

YES, the exclusive design of Link-Belt "RC" Flexible Couplings combines these two desirable features.

The result: equalization of load, proper balance at high speeds . . . adjustment to reasonable misalignment and end float . . . simplicity and economy.

Link-Belt makes a complete line of Roller Chain Couplings from fractional to 1000 hp. You can get all the facts from Folder 2363.

"RC" Couplings available in 30 sizes, ½ to 12 in. bore.



★ **LINK-BELT** "RC" FLEXIBLE COUPLINGS

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INDUSTRIAL EQUIPMENT NEWS

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What's New · EQUIPMENT · PARTS · MATERIALS

Vol. 20 FEBRUARY, 1952 No. 2

I'm the Engineer

The following is a composite of several letters taken from the hundreds on which you took time out from your busy day to write us in answer to our year-end letter. The subject is your inquiries to the manufacturers. The letters on which the composite is based present your side of the inquiry transaction with particular reference to followup by salesmen. The composite parallels the little piece we wrote last July under the title, "I'm the Salesman."

"I'm the engineer who does indeed look through the pages of IEN with serious intent to find those things that will solve our problems. A good many pieces of equipment and materials we might otherwise have missed are functioning for us right now thanks to the information we found there. At the same time, for every item we have purchased, we can count about ten more for which we hold information on file for future reference. In these many cases we have requested catalog data for our files in anticipation of our future needs.

"We welcome salesmen calls, following our inquiries, when we have immediate need or when our understanding of a product can be improved by personal contact. For example, I received a circular in answer to my inquiry to an IEN advertiser for data on his production machine. A few days later a representative called and explained its mechanical operation. I was able to make a report for purchase without further question.

"On the other hand, some manufacturers send their local representatives instead of first sending the data for which I have asked. It appears even that some of them refer inquiries to field men without identifying the item concerned. I have had phone calls from several salesmen saying, 'I have a home office memo to call on you, perhaps you know why.' I even have had salesmen call to practically tell me I had no business to ask for information if I did not intend to buy at once. I put up with such men because the IEN service is too valuable otherwise to let them throw a wrench in the gears.

"Then there is the manufacturer who has no local representation and so sends a man from his home office, sometimes several hundred miles, without first either writing or phoning. It is embarrassing. There is also the manufacturer whose literature completely omits information of practical value and whose representatives concentrate their service calls on statements such as 10 per cent greater, 30 per cent better. We try to listen politely. The manner in which a contemplated supplier furnishes the requested descriptive material quite often is the deciding factor on his choice or rejection.

"I realize that direct inquiries to the makers explaining each specific problem is the best way to get exactly what we want. I would follow such a plan if only a few things were involved or there were more hours in my day. Actually the IEN service form is my 'out' to cover all the subjects in which we have serious interest and here's what I suggest—

"Upon receipt of my inquiry the manufacturer will send the printed information and approximate prices. He will name his local representative where I can secure personal attention, or include a return post card on which I can take the 'next step', or he will phone me for an appointment. If it would help, I will be glad to identify my service-form requests with some symbol such as 'F' for file information, 'S' when we want a salesman, 'N' for immediate action. What do you think?"

W. E. Irish.

▼ BREVITY—identify by IEN - 1122 if you write the maker ▼

LOW COST, ORGANIZED STORAGE SPACE
32-DRAWER
(96 COMPARTMENTS)
Metal Storage Units

CRYSTAL CLEAR OR MATCHING GRAY PLASTIC DRAWERS

MODEL J-32
$11.95
F.O.B. AKRON
15⅝" high
6" deep
12½" wide

HUNDREDS OF USES:

Useful in every shop, lab, office, stockroom, store, home, assembly line . . . in radio, TV, photographic and ignition work.

Orderly storage for small parts, bolts, nuts, drills, tools, carbide tips, buttons, thread, paper clips, labels, pins, rubber bands, stamps, films, photo supplies, negatives, fishing tackle, artist supplies, medical supplies, marine supplies, drugs, jewelry, etc. Safety catch ends accidental spilling, identity card drops into slot in drawer front.

Made in 6 sizes:

J-64	64 drawer	(192 compartments)	$22.95
J-32	32 drawer	(96 compartments)	11.95
J-24	24 drawer	(72 compartments)	10.25
J-16	16 drawer	(48 compartments)	7.29
J-12	12 drawer	(36 compartments)	5.43
J-8	8 drawer	(24 compartments)	4.08

SEND FOR FREE DESCRIPTIVE FOLDER

AKRO MILS, INC. P.O. BOX 989 AKRON 9, OHIO

▼ BREVITY—identify by IEN - 1123 if you write the maker ▼

SEALMASTER BALL BEARING UNITS

FOR TOP PERFORMANCE!

Investigate these Important Features

Permanently Sealed
Self-Aligning
Pre-Lubricated

- Pillow Blocks
- Flange Units
- Cartridge Units
- Flange Cartridge Units
- Take-Up Units

WRITE FOR A COPY OF CATALOG 845

- PERMANENTLY SEALED . . . to exclude dirt and retain grease over long periods.
- SELF-ALIGNING in any direction without seal distortion . . . yet no outer race rotation in housing.
- PRE-LUBRICATED at the factory—ready for use in your plant.

BEARING DIVISION
STEPHENS-ADAMSON MFG. CO.

Tellevel—Bin Level Controls · Car Loaders · SealMaster Ball Bearings · Car Pullers · Winches · Variable Speed Reducers · Saco Speed Reducers

281 RIDGEWAY AVE., AURORA, ILL.

▼ BREVITY—identify by IEN - 1124 if you write the maker ▼

Electrical breakaway coupling disconnects *automatically*

Unattended, this new coupling disconnects when a predetermined pull is applied (10 to 40 lbs. spring tension). Couples or uncouples, without a wrench. Moisture proofed and pressurized to 750 lbs. psi.

This type is also available as a push-pull coupling, which requires no wrench; this is a definite advantage in hard-to-get-at installations.

INST-O-MATIC COUPLINGS

We engineer to meet your requirements. Submit your problem.

Exclusive Distributor
AIR ASSOCIATES INCORPORATED

TETERBORO—216-222 Union St., Hackensack, N. J.
CHICAGO—5315 West 63rd Street
DALLAS—3214 Love Field Drive
GLENDALE—1231 Air Way
MIAMI—P.O. Box 141, Int'l Airport

Manufactured by
Wiggins
E. B. WIGGINS OIL TOOL CO., Inc.
3424 E. Olympic Blvd.
Los Angeles 23, Calif.

BREVITY—Identify by IEN - 1125 If you write the maker

LOW-COST FINGERTIP SPEED CONTROL

with LOVEJOY variable SPEED PULLEYS

Speed up or slow down equipment while machines are running — make material or production changes without losing time and labor. Easily installed on old or new machines. Sizes fractional to 8 H. P. Ratios to 3:1 infinitely variable. Also investigate the new Lovejoy Tilting Motor Base. Adjustable width and length to accomodate all fractional motors up to ¾ H. P. Low Price.

Send for catalog and complete data.

LOVEJOY FLEXIBLE COUPLING CO.
5014 W. Lake Street Chicago 44, Illinois
Also Mfrs. Lovejoy Universal Joints and Lovejoy Flexible Couplings

BREVITY—Identify by IEN - 1126 If you write the maker

S-A Car Pullers

PULL Freight Cars . . . with ease!

Note These Features:

Pull From Any Direction. Rope snubbed around capstan will pull from any angle.

Totally Enclosed—No moving parts to endanger operator.

Weatherproof—No special housing required.

Cut Helical and Worm Gears—Enclosed gears operate in constant bath of oil.

Powerful Hoist Type Motor—Enclosed, ball bearing motor has high starting torque.

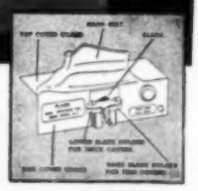
Save Time, Cut Costs

Write for bulletin 1339

STEPHENS-ADAMSON MFG. CO.
Tellevel—Bin Level Controls · Car Loaders · Car Pullers · Winches · SealMaster Ball Bearings · Sace Speed Reducers
231 RIDGEWAY AVE., AURORA, ILLINOIS

BREVITY—Identify by IEN - 1127 If you write the maker

Amazing FLASH BOX OPENER
Opens Any Carton Quicker . . . Cleaner



Exclusive patented blade holder adjustable to varying thicknesses of carton covers.

THE ONLY CARTON OPENER THAT GIVES YOU ALL THESE ADVANTAGES:

Penetrates exactly under the outer cover thickness • Protects contents of carton • Cuts clearly to permit re-use • Prevents accidents • Saves time • Eliminates fatigue. *Already accepted by leading industries.*

Retail Price $1.75

FLASH BOX OPENER CO., Inc.
52 W. Houston St. • New York 12, N. Y.

BREVITY—Identify by IEN - 1128 If you write the maker

LIGHTING . . Mercury arc lamp to inspect, test, rates 130,000 lumens

Source: HUGGINS LABORATORIES
702 Hamilton Ave., Menlo Park, Calif.

Removed from holders

Three sizes are now available in the improved Type - A Ames water - cooled mercury-arc lamp to provide arc widths of 1, 1¼ and 1½ mm. Light output ranges from 65,000 to 130,000 lumens. The lamp can be operated steadily from an ac. or dc. source or by single-flash or stroboscopic power supplies. Quartz accessories can be provided when a source of ultra-violet light is required.

Average life is 5 hr. at rated brilliance. In single-flash operation the lamp can be operated at 200 times the steady-state brilliance. It can be pulsed at rates to 100 kc. on intervals as small as 0.25 microsecond.

BREVITY—Identify by IEN - 1129 If you write the maker

CORROSION PROOFING . . Silicone emulsion to protect finished surfaces

Source: CANNON CHEMICAL CO.
179-83 Portland St., Cambridge 41, Mass.

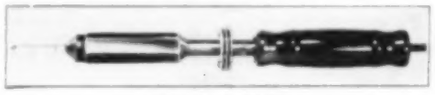
Sample available upon request

An invisible film that will not crack, chip, peel or scratch is produced on a finished surface, either plated or painted, by application of a new silicone emulsion known as Lecton Chrome-Care. Application is by spreading thinly over the surface to be protected and by then wiping dry with a clean cloth. When the material is used frequently it retards rust and corrosion, removes normal amounts of oil and grease and keeps the surface clean, new and shining. Packaging is in pint containers at a list price each of $1.50.

BREVITY—Identify by IEN - 1130 If you write the maker

SOLDERING . . Electric iron rates 150 watts, has ¼-in. plug tip

Source: HEXACON ELECTRIC CORP.
155 W. Clay Ave., Roselle Park, N. J.



List price is $8.50

A small tip to get into confined locations and ability to stand up in continuous production-line operation characterize this new Model P-154 electric iron. The electric element back of the tip is designed for continuous high-temperature duty. Both it and the tip are replaceable. Back of the head are heat-radiating fins and an insulated handle for the operator.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1131 If you write the maker

TROMBETTA SOLENOID CO.
331 N. MILWAUKEE ST. • MILWAUKEE 2, WIS.

SB-373 SHOE BRAKE
10" WHEEL, 3" FACE, 450 FT.-LBS.

SB-300 LINE OF BRAKES
TORQUE 3 TO 16500 FT.-LBS.

B-100 LINE OF DISK BRAKES
TORQUE 10 TO 25000 FT.-LBS.

EIGHT LINES OF SOLENOIDS
RECIPROMOTORS AND SEMOTORS

BREVITY—Identify by IEN - 1132 If you write the maker

OFFERS YOU OVER 15,000 TYPES, SIZES AND RATINGS OF ELECTRIC HEATERS FOR ALL YOUR NEEDS

FAST · EFFICIENT · ECONOMICAL · EASY TO INSTALL

This Booklet Shows You How To Save Money with Electric Heat

It's packed with ideas you'll find useful.

Get your copy now!

Regardless of your heating problems, there are Chromalox Electric Heaters that give you the heat you want when you want it. Compact Chromalox Units provide dependable, around the clock service; they are easily installed in existing or new equipment. Operating temperatures can be quickly regulated manually or thermostatically to fit the work requirements in your plant.

Industrial Div., EDWIN L. WIEGAND CO., 7505 Thomas Blvd., Pittsburgh 8, Pa.
See Chromalox Electric Strip Heaters Advertisement, Page 11

CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

BREVITY—Identify by IEN - 1133 If you write the maker

YOU CAN TELL AT A GLANCE WITH

QUIK-LABEL PIPE MARKERS

Identify every pipe in your plant quickly and inexpensively with Brady Pipe Markers. They give you a uniform system of identification based on ASA Standard A13. Anyone can apply and everyone can identify the pipe contents and direction of flow. Cut maintenance time. Make your plant a safer place to work. Over 235 different markers in stock. Specials made to order.

QUIK-LABELS come on handy dispenser cards. They are printed in large black letters on approved ASA background colors. Applied in a jiffy—they stick without moistening. Use indoors or outdoors. Cost only a few cents per marker.

WRITE FOR Free SAMPLES AND USEFUL CATALOG

DISTRIBUTORS IN OVER 100 PRINCIPAL CITIES

MANUFACTURERS OF SELF-STICKING PRODUCTS
W. H. BRADY COMPANY
1621 E. SPRING STREET • CHIPPEWA FALLS, WIS.

BREVITY—Identify by IEN - 1134 If you write the maker

METAL DETECTOR BOOKLET
tells how to protect product purity

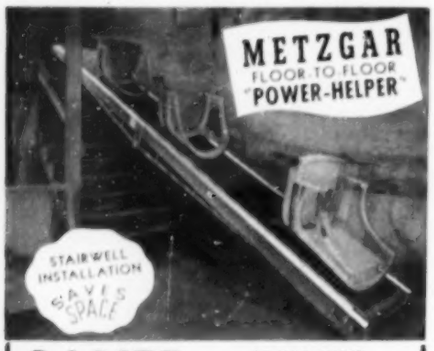
JUST ONE IDEA from this 20 page booklet can help you prevent stray metal from damaging equipment or reaching a customer in a packaged product. Numerous schematic sketches show ways of using the Metal Detector to protect processing machinery or insure packaged goods quality.

Allis-Chalmers Metal Detector is an electronic device that spots non-magnetic as well as magnetic metal particles. Pieces are located regardless of how deeply embedded.

Call your nearby Allis-Chalmers District Office for Booklet 15B7217A, or write Allis-Chalmers, Milwaukee 1, Wisconsin. A-2331

ALLIS-CHALMERS

BREVITY—Identify by IEN - 1135 If you write the maker



SAVED $3,044 OVER COST OF ELEVATOR

WRITE— for Suggestion. Give height floor to floor and horizontal space available . . . Also maximum unit load

- Maintenance — Zero
- Operating Cost — Negligible
- 500% Faster Loading and Unloading
- Safer than Elevator
- Flexible, with two-way Controls
- Prompt Delivery — Easy Installation

METZGAR CO. METZGAR

MFGRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES • REEL DOLLIES & END-WOOD WHEELS.

417 Douglas, N. W.

GRAND RAPIDS 4, MICH.

BREVITY—Identify by IEN - 1136 If you write the maker

FAST OPERATION . . . CONSTANT SERVICE

AMERICAN MONORAIL *CRANE*

This new American MonoRail Crane is ruggedly built to handle loads up to 10 tons at operating speeds of 500 feet per minute. Articulated trolleys assure perfect alignment of trucks for smooth crane travel.

Let an American MonoRail engineer tell you how you can get fast, constant service not only on the craneways, but also through adjacent areas by way of interlocking MonoRail systems.

THE AMERICAN MONORAIL COMPANY

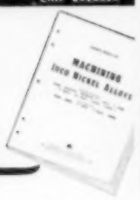
13111 Athens Avenue • Cleveland 7, Ohio

BREVITY—Identify by IEN - 1137 If you write the maker

Whether you work with a

or with a

You'll find lots of use for this



Here's Inco's Technical Bulletin T-12, "Machining Inco Nickel Alloys." Designed to give practical information to both the new and experienced machinist.

- It contains a summary of machining characteristics of the various wrought and cast Inco Nickel Alloys.
- It discusses their application in semi-automatic and automatic machining and precision grinding.
- It gives you information on tool materials, tool design, and coolants.

And it's yours just for the asking!

Nickel and high Nickel Alloys, because of their high-strength, toughness and corrosion resistance, are essential in Defense. So, their deliveries take longer, now. Nevertheless, chances are this booklet will help you. Use the handy I.E.N. reply card to ask for your free copy.

THE INTERNATIONAL NICKEL COMPANY, INC.

67 Wall Street, New York 5, N. Y.

BREVITY—Identify by IEN - 1138 If you write the maker

TESTING . . Abrasive wear machine for solid materials, coated surfaces

Source: TABER INSTRUMENT CORP. 107 Goundry St., North Tonawanda, N. Y.

Adjustable test loading

A new timer for operating-interval control is now employed in the company's Abraser testing machine, previously described IEN-8797-50. Also available are several new types of specimen holder for use on both the portable machine and the heavy-duty laboratory unit. As in the previous design, the machine evaluates the resistance of surfaces to rubbing abrasion.

Applications include test of surfaces that have been painted, lacquered, electroplated, plastic coated, textile fabrics ranging from silks to heavy upholstery, leather, rubber, linoleum. Wear action is applied by dual abrading wheels rubbing the specimen from the center outward and from the outside toward the center as it is rotated in the holder under the rotating wheels. The abrasion marks are in the form of two arcs crisscrossing each other and covering an area of about 10 sq. cm. which is sufficient to permit rating the material under test.

Tests can be run dry or wet. In the former case a motor driven vacuum attachment removes dust as it is generated. Available designs of specimen holder are illustrated and described in Bulletin 5105.

BREVITY—Identify by IEN - 1139 If you write the maker

SEPARATING . . Centrifugal unit removes moisture, dirt from air line

Source: C. A. NORGREN CO. 220-24 Santa Fe Drive, Denver 9, Colo.

Dirt and water blow out

Filter-Drain designates new design in the company's compressed-air separator, previously described IEN-6893-47. Foreign matter is now drained out automatically through a valve at the bottom of the assembly as it accumulates. The separating action continues without need for operator attention. The unit is designed for use in air lines to portable air tools, air cylinders and air powered equipment. It is available with ¼, ⅜ and ½-in. pipe-thread sizes. Flow rating is maximum at 35 cfm. on 150 lb. in temperatures from 40 to 120 deg. F.

Centrifugal action set up by the inlet air throws moisture and any particles of foreign matter to the body walls where they drain down through openings in a baffle. They come to rest in the bottom compartment formed by the baffle and the body. A Monel-Metal 200-mesh screen covering the outlet stops any particles that do not separate out centrifugally. Separating action continues when flow of air is cut off to assure drainage of condensate in the air line when the equipment is shut down and no longer operating.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1140 If you write the maker

TOOLAGRAM

Work saving PROTO heavy duty industrial tools include many types of wrenches and sockets in addition to those shown.

Tool experts, like the Ratchopper, are "hopped up" over PROTO because PROTO tools are professional . . . designed and made to highest standards. Another reason is completeness of line. See your PROTO dealer's big selection. Send 10¢ for 68-page catalog to

PLOMB TOOL COMPANY
2271K Santa Fe Ave.
Los Angeles 54, Calif.

5183

PROTO TOOLS LOS ANGELES

BREVITY—Identify by IEN - 1141 If you write the maker

Precision **ROD CUTTING at High Speed**

with the New **DI-ACRO ROD PARTER**

DI-ACRO POWER PARTER

The DI-ACRO Rod Parters further increase the applications of "DIE-LESS DUPLICATING" as a cost cutting, time-saving production technique.

Do you require precision? DI-ACRO Rod Parters hold tolerance to .001" on duplicated cuts. The ends are square, and roundness is maintained.

Do you want speed? The Rod Parters exceed outputs of other methods with equal accuracy, on rods and bars up to ½". Torrington Roller bearings incorporated in an exclusive multiple leverage arrangement provide remarkable ease of operation.

DI-ACRO Power Parter has an cylinder cushioned for quiet and efficient operation. Each cutting cycle obtained with 4-way foot valve—leaving operator's hands free.

"PARTS OFF" MANY MATERIALS

All Hot and Cold Rolled Rods • Stainless Steel • Copper
Chrome Molybdenum • Brass • Aluminum • Bi-metals
Many Types of Plastics • Fibre • Rubber • Wood

GET "DIE-LESS DUPLICATING" CATALOG! Shows parts duplicated by DI-ACRO Benders, Brakes, Shears, Rod Parters, Rollers, Notchers, Punches.

318 8th Ave. Lake City, Minn.

BREVITY—Identify by IEN - 1142 If you write the maker

Oxweld

PORTABLE FLAME-CUTTING MACHINES FILL A VARIETY OF SHOP REQUIREMENTS

This Oxweld CM-16 is designed for oxy-acetylene flame-cutting of steel plate up to 4 inches thick. It travels directly on the work and cuts circles automatically—hand-guided, it cuts irregular shapes. Operated on track this machine cuts straight lines. Adaptors are available for straight-line cutting on thick steel or for beveling. The CM-16 weighs only 45 pounds and is low in price. Write for catalog, Form 4487.

LINDE AIR PRODUCTS COMPANY
A DIVISION OF UNION CARBIDE AND CARBON CORPORATION
30 East 42nd Street UCC New York 17, N. Y.
In Canada: Dominion Oxygen Company, Limited, Toronto

BREVITY—Identify by IEN - 1143 If you write the maker

Get *positive* water gage readings. New Yarway illuminator spots meniscus at any point in its range. Superior penetration of blue-white light cuts through foreign deposits on gage glasses, extraneous light and dust particles. Use on new or already-installed Yarway Flat Glass Gages. Full details on request.

Yarnall-Waring Co., 122 Mermaid Ave., Phila. 18, Pa.

YARWAY *Branch Offices in Principal Cities*

BREVITY—Identify by IEN - 1144 if you write the maker

STAYNEW

ABSORPTION FILTERS PROVIDE SUPER FILTRATION!

—REMOVE LAST TRACES OF OIL AND MOISTURE FROM COMPRESSED AIR LINES

MODEL AAFH ABSORPTION FILTER

Many manufacturing processes and certain compressed air operated equipment require the removal of condensed oil and water vapors *completely* from the compressed air. In thousands of installations all over the country, Staynew Absorption Filters remove the last traces of oil and moisture and prevent failure of combustion and other pneumatic controls . . . keep maintenance time and cost at a minimum.

For Complete Information, Write Today For Bulletin B-1A.

Representatives in Principal Cities

DOLLINGER STAYNEW FILTERS

DOLLINGER CORPORATION

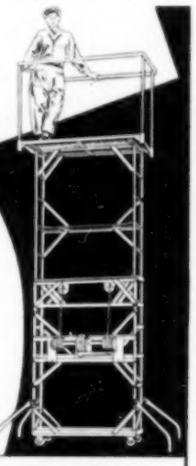
ALL TYPES OF FILTERS FOR EVERY INDUSTRIAL NEED

BREVITY—Identify by IEN - 1145 if you write the maker

No Erection Required . . . Use at Any Height

HI-LIFT

PORTABLE WORK PLATFORM

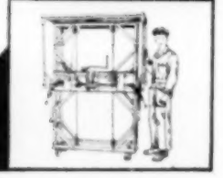


for **Overhead Maintenance, Painting, Lighting, Cleaning, etc.**

- Safe, Sturdy, Dependable
- No Loose Parts
- Easily Rolled . . . Easily Raised

When safety counts, count on Hi-Lift. Sturdy, all welded steel construction means absolute safety . . . outrigger brace prevents tilting or rolling. Small enough to pass through doorway, yet raises to 11 ft. 6 in. Endorsed by leading concerns.

Also Makers of Hi-LIFT Extension Scaffold and ATLAS One-Man Truck Loader.



Write for Complete Information

ATLAS INDUSTRIAL CORP.
847 39th Street
Brooklyn 32, N. Y.

BREVITY—Identify by IEN - 1146 if you write the maker

THE NEW SAFETY "UTILITY" MARKING OUTFIT

Holder Holds Nine Sizes of Type From 1/32" to 1/4"

Designed for light stamping work, the "Utility" outfit is ideal for marking etched plates, tags, keys, stock checks; brand names or stock numbers on steel bars; special coding, serial numbering, identification, inspection and other marking where two or more characters are required.

Send for Literature and Prices

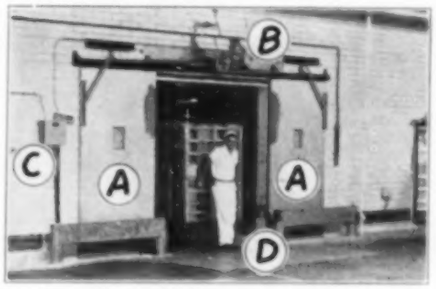
M. E. CUNNINGHAM CO.
SAFETY STEEL STAMPS

99 E. CARSON STREET PITTSBURGH, PA.

BREVITY—Identify by IEN - 1147 if you write the maker

DOOR OPERATOR . . Pneumatic unit, floor antenna for electronic control

Source: NATIONAL PNEUMATIC CO.
123-127 Amory St., Boston 19, Mass.



The worker just walks through

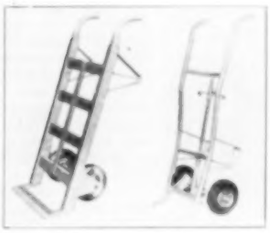
Electro-Field trade names a new assembly of the company's air-operated door equipment for operation by electronic control actuated by a passing worker. As shown in the illustration, double doors A are opened by the pneumatic equipment B when actuated by the control assembled at C as the operator moves over an antenna area D extending on both sides of the door opening.

Body capacitance acting through the antenna actuates the control to open the doors. They remain open for a predetermined interval and then close automatically. Operating speed is checked to avoid slamming. Application can be made on any type of sliding, swinging or folding doors. The equipment leaves the doorway and approaches unobstructed.

BREVITY—Identify by IEN - 1148 if you write the maker

TRUCKS . . Two wheel hand units to move drums, barrels, crates, bags

Source: DICO CO.
202 S. W. 16th St., Des Moines 5, Iowa



Ask for Dico catalog

The company announces new design of its Float-Away barrel and drum truck and its Dok-Master warehouse and freight truck. Curved handle shafts on the barrel unit permit it to cradle barrels as well as straight sided drums. The freight truck employs tubular steel frame, formed steel wheel brackets and an axle assembly with end bolts enclosed.

Three models in the Float-Away line measure 57 in. in length by 23½ in. in width and are mounted on 10 by 2½-in. wheels, either metal or rubber tired. Load capacity is 1,000 pounds. Six models in the Dok-Master line measure 56 to 60 in. in length by 20 to 24 in. in width. They are also mounted on 10-in. wheels, either metal or rubber tired, and are available in ½ and 1-ton capacities. The wheels ride on roller bearings in both designs.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1149 if you write the maker

1 American industry—"Brings the work to the men instead of sending the men to the work".

The result — greatly increased output, and with less tiring effort. It's the American way.

Logan Conveyors have been an integral part of the nation's "mechanical handling picture" for two generations. From receiving department, through manufacture, assembly and shipping, Logan equipment puts flow into American production, clips hours and days off plant production schedules — brings the work to the men. Write for literature or for nearest engineer to call.

Logan Conveyors

LOGAN CO., 276 CABEL ST., LOUISVILLE, KY.

BREVITY—Identify by IEN - 1150 if you write the maker

GET THIS CATALOG NOW . . .

For valuable information on high-speed process measurement and control

Wherever unusual instrument speed is required in measuring, recording or automatically controlling, the vacuum tube actuated Speedomax is ready to do the job. L&N Catalog ND46(1) contains 40 pages of information on Speedomax Type G instruments. Details of ranges, specifications, types of equipment for particular jobs, etc., are catalogued in reference form. For specific help on a specific problem, feel free to call on an L&N engineer, or write to Leeds & Northrup Company, 4905 Stenton Avenue, Philadelphia 44, Pa.

LEEDS & NORTHRUP COMPANY, 4905 STENTON AVE., PHILA. 44, PA.

LEEDS & NORTHRUP

MEASURING INSTRUMENTS · TELEMETERS · AUTOMATIC CONTROLS · HEAT TREATING FURNACES

Jrl. Ad. ND46(2)

BREVITY—Identify by IEN - 1151 if you write the maker

need a BUCKET ELEVATOR?

If you do, whether for replacement or a new installation, the place to find it is in the complete Chain Belt line. Rex® Standard Bucket Elevators are of highest quality, built to proved designs. They will handle virtually any type of free-flowing material and are available in a wide variety of types and capacities.

For more information, write today to Chain Belt Company, 4675 W. Greenfield Ave., Milwaukee 1, Wisconsin.

REX CHAIN BELT COMPANY

Chain Belt COMPANY OF MILWAUKEE

BREVITY—Identify by IEN - 1152 if you write the maker

5 built-in advantages found only in . . .

BLAW-KNOX
Electroforged STEEL
GRATING

BLAW-KNOX DIVISION
OF BLAW-KNOX COMPANY
2050 Farmers Bank Bldg.,
Pittsburgh 22, Pa.
Offices in Principal Cities

1. Rigid one-piece construction—easy to install.
2. Maximum open area for light and air.
3. Easy to paint—all surfaces accessible.
4. Non-slip Twisted Cross-Bar.
5. Self-cleaning—no sharp corners to clog.

Blaw-Knox Grating Has Them All!

WRITE FOR BULLETIN 2365

BREVITY—Identify by IEN - 1153 if you write the maker

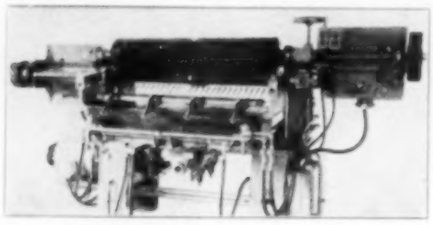
BREVITY—Identify by IEN - 1154 if you write the maker

BREVITY—Identify by IEN - 1155 if you write the maker

BREVITY—Identify by IEN - 1156 if you write the maker

POLISHING . . Roll type machine to finish flat work held in rack

Source: CLAIR MFG. CO.
1004 S. Union St., Olean, N. Y.



Particularly for silverware

Model 208 is a new design in the company's line of roll-type polishing machines in which two pairs of motor-driven buffs are mounted on horizontal shafts and powered by a 7½ or 10-hp. motor. Work pieces such as spoon handles, plier handles, surgical instruments, forks are mounted in a rack to be inserted between the buffs for the finishing action.

The rack secures to a carriage that provides a hydraulically-operated in-and-out stroke that is adjustable in length between ¾ and 24 inches. Air pressure applies in cylinders backing up the wheel shafts to set a desired uniform pressure and provide the required float. A safety bar across the front of the machine controls instant opening between the rolls when it is depressed for loading or for emergency. Controls can be specified to open a space between the rolls and stop action upon completion of any predetermined number of strokes to a maximum of 400.

BREVITY—Identify by IEN - 1157 if you write the maker

TRUCK . . Power lift fork design, engine drive, 3,000 to 7,500 pounds

Source: BUDA CO.
15401 S. Commercial St., Harvey, Ill.

Solid or cushioned tires

Twelve models are included in a new Series-FT "safeline" engine-driven fork-lift truck. Either a diesel or a gasoline engine, both of the company's make in identical ratings and mounting dimensions, can be specified. Capacities are in five steps between 3,000 and 7,500 lb. on a 24-in. load center and in one rating of 4,000 lb. on an 18-in. load center. Five standard lift heights are between 72 and 120 inches.

Construction includes roller-equipped uprights with patented adjustable side-thrust rollers for the carriage, a single-lever gear shift for two speeds forward and two in reverse, a quick-change heavy-duty clutch and a set of electric gages on the instrument panel in front of the operator. Parts have been standardized to simplify maintenance and servicing so about 85 per cent are interchangeable between all twelve models. A feature is accessibility of all the working elements.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1158 if you write the maker

BREVITY—Identify by IEN - 1159 if you write the maker

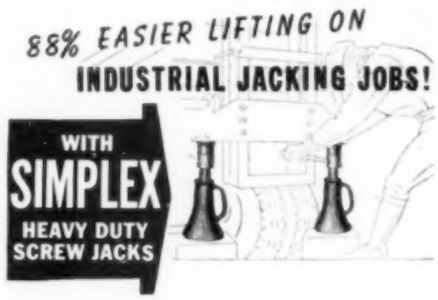
Precision plastics in small lots are now available at the lowest possible die mold cost. This new method is primarily for pilot runs in the production of 100 to 5000 small precision plastic moldings for experimental and other purposes where conventional type die molds would be prohibitive.

Present capacity: 2-ounce size, 2 x 4 x 6

Your inquiries are invited.

DAYTON ROGERS
Manufacturing Company
MINNEAPOLIS 7, MINNESOTA

BREVITY—Identify by IEN - 1160 if you write the maker



An entirely new principle on Simplex Screw Jacks cuts friction 88%—gives you faster, easier lifting. Concave inner surface of non-slip cap rests on large chrome-moly steel ball in hard steel ball-seat. Can't flatten under load. Cap has 9 degree self-leveling float—won't slip out under load.

Other features make these Simplex jacks safer on heavy-duty jobs. Tough, malleable iron housing. Broad malleable iron base for stability. Safety peephole in base. Color indicates jack capacity. High carbon steel bars 40% stronger than ordinary bars.

21 models with 4-way head—10 models with ratchet head. Capacities from 10 to 24 tons. Ask for new illustrated bulletin Industrial 46.

Simplex LEVER · SCREW · HYDRAULIC Jacks

TEMPLETON, KENLY & CO.
1017 South Central Avenue, Chicago 44, Illinois

BREVITY—Identify by IEN - 1161 if you write the maker

▼ BREVITY—Identify by IEN - 1162 If you write the maker ▲▼

SAVES UP TO 50% ON FASTENINGS IN LIGHT GAUGE SHEET METAL

The Original P-K Sheet Metal Screw

One of many types of Parker-Kalon Self-tapping Screws for faster, stronger metal and plastic assemblies. For details, write Parker-Kalon, 280 Varick St., New York 14, N. Y.

Call in a P-K Assembly Engineer

See why industry's fastening-wise leaders say —

IF IT'S P-K — IT'S O.K. — THE ORIGINAL

PARKER-KALON® SELF-TAPPING SCREWS

AVAILABLE EVERYWHERE THROUGH ACCREDITED DISTRIBUTORS

▼ BREVITY—Identify by IEN - 1163 If you write the maker ▲▼

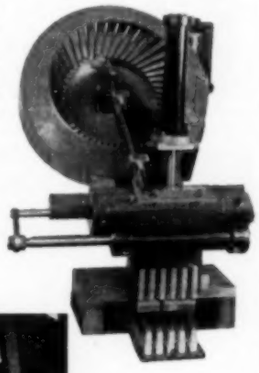
Don't Handcuff *Valuable* Manpower!

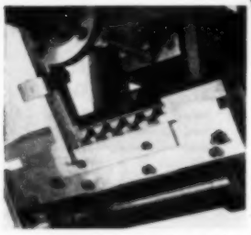
FREE IT FOR MORE IMPORTANT WORK— BY USING

DPS *Motorized* HOPPER UNITS

Modern production demands the speed and accuracy of this great aid to SELECTIVE FEEDING. It makes slow, manual methods obsolete and releases "frozen" manpower for more productive work. D.P.S. Motorized Hopper Units select, orient and feed production parts of a wide variety to a given position for primary and secondary operations. They are readily adaptable to all types of standard production equipment and special machines that would otherwise require constant attention by an operator.

SEE US AT THE A.S.T.E. SHOW MARCH, CHICAGO





These illustrations show an interesting application, previously a problem of manual loading. Five terminals were to be inserted into the spark plug bodies simultaneously as the carrier progressed into the furnace for the firing operation. The carrier plates, illustrated, had equally spaced receiving holes drilled five abreast and were moved along an indexing conveyor with a momentary pause beneath the ram of the special inserting machine. At this pause the transfer slide (close-up) transferred five terminals into proper vertical position, at which time index of the conveyor cycled the machine and an air cylinder inserted the studs into the spark plug bodies, eliminating the manual insertion of the terminal studs.

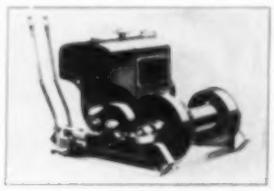
DETROIT POWER SCREWDRIVER CO.

2815 W. FORT ST. DETROIT 16, MICH.

▼ BREVITY—Identify by IEN - 1165 If you write the maker ▲▼

WINCH . . Engine or motor drive, 3,000 and 6,000 lb. at 100 fpm.

Source: KINC MFG. CORP.
3144-48 W. Chicago Ave., Chicago 22, Ill.



Mounted on skid base

Model 1300-H, rating 3,000 lb., and Model 2500-H, rating 6,000 lb., both at 100 fpm., have been added to the company's line of engine or motor-driven winches for hoisting service. Both are suited for use in loading, stacking, car moving, construction.

Drive when an engine is employed, as in the illustration, is by a 13-hp. or a 25-hp. Wisconsin gasoline engine. Control is by a hydraulically-operated clutch. External contracting bands provide the braking action. Safety ratchets operate with the brakes to hold drum position.

▼ BREVITY—Identify by IEN - 1166 If you write the maker ▲▼

LUBRICATING . . Cutting compound based on combination of waxes and oils

Source: TAP AND DRILL E-Z CORP.
11031-35 Hawthorne Blvd., Inglewood 95, Calif.

Free sample upon request

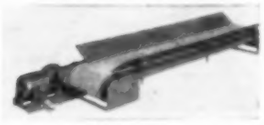
Lubri-Cut trade names a new cutting lubricant available as a paste and as a semi-paste. The former is packaged in 8-oz. tubes measuring about 5 in. in length and 1¼ in. in diameter. It is about the consistency of beeswax and is used as a quick lubricant by tool and die makers. Each tube lists at $1.40.

The semi-paste is of somewhat thinner consistency. It is supplied in 2-oz. tubes and in 1, 5, 10 and 25-lb. cans at a list price ranging from $7 to $5.75 per pound. The 2-oz. tube, listing at $1, is fitted with a cone-shaped applicator opening through which the lubricant is squeezed. The bulk material can be reduced by addition of cutting oils for operations such as reaming and threading. A characteristic of both materials is that the included waxes do not go into solution until they reach a relatively high temperature. They do have continuous high affinity for metal.

▼ BREVITY—Identify by IEN - 1167 If you write the maker ▲▼

CONVEYING . . Motor driven belt to carry scrap from a punch press

Source: METZGAR CO.
417 Douglas St., N. W., Grand Rapids 4, Mich.



Press-Helper is a new special assembly of belt conveyor measuring 5½ ft. in length with drive by a ¼-hp. geared-head motor. The conveyor employs a 12-in. neoprene belt moving under trough sides to convey slugs and scrap from a punch press. The belt rides over 6-in. pulleys mounted on ball bearings.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1168 If you write the maker ▲▼

▼ BREVITY—Identify by IEN - 1169 If you write the maker ▲▼

YOU WON'T GO WRONG with a

Sta-Warm

electrically heated

COMPOUND MELTER

There's a size and type of compound melter, with accessories to suit, for almost every production and laboratory requirement. The Sta-Warm "standard" line of pots, kettles and tanks fits 90% of your production requirements. Sta-Warm "engineered" pots, kettles and tanks are offered to fill the unusual requirement. These heaters are designed especially for you.

Are you aware of all that Sta-Warm offers you in compound and soft metal melters today? Inquire, outlining your problem. A reply by early mail, with specific suggestions based on many years of compound heating experience, will come back to you.

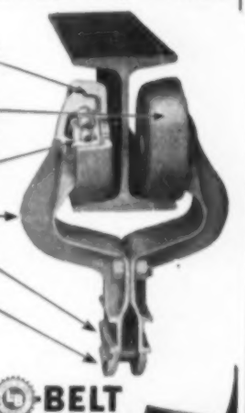
Why not investigate Sta-Warm today?

Sta-Warm ELECTRIC CO.
560 N. CHESTNUT ST., RAVENNA, OHIO

▼ BREVITY—Identify by IEN - 1170 If you write the maker ▲▼

Important points to look for when you buy trolleys

You get them all when you buy Link-Belt



Effective sealing of wheel and bracket keeps out dust and dirt.

Wheels are drop-forged, internally machined to extremely close tolerances.

Raceways are induction hardened. High load capacity is based on entire assembly — not just on bearing.

Rugged, one-piece bracket and clevis are drop-forged and heat-treated—fewer parts to maintain.

Trolley can replace other makes without disturbing chain's operating position.

Clevis pins are locked in bracket, cannot rotate. Bracket wear is minimized.

Write for Folder 2241-B.

LINK-BELT

LINK-BELT COMPANY: Chicago 8, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8.

▼ BREVITY—Identify by IEN - 1171 If you write the maker ▲▼

DRILLING PROBLEM?

Switch to BLACK & DECKER POWER

½" Standard Electric Drill

¼" HOLGUN* Electric Drill

FOR drills to fit your needs, it pays to see your nearby Black & Decker Distributor *first!* You get an unmatched choice of Drill models—capacities from ¼" to 1¼" — choice of handle arrangement — choice of speed, power and price in most capacities. And you get powerful Black & Decker-built motors, full ball-bearing construction, extra-tough parts, husky housings, perfect balance. Write for free catalog to: The Black & Decker Mfg. Co., 615 Pennsylvania Ave., Towson 4, Md.

LEADING DISTRIBUTORS EVERYWHERE SELL

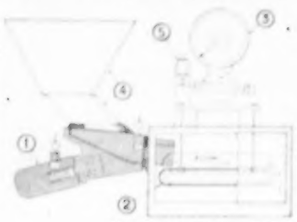
Black & Decker

PORTABLE ELECTRIC TOOLS

*Trade Mark Reg. U. S. Pat. Off.

BREVITY—identify by IEN - 1172 if you write the maker

For Really Accurate Constant Weigh Feeding!



The Always Dependable

SYNTRON

GRAVIMETRIC FEEDERS

—with their purely "ELECTRONIC" instantaneous correction of even the slightest variation in weight in the flow of bulk material, offer accuracies far beyond those possible with mechanically controlled equipment.

• Small sizes for weigh feeding chemical reagents—up to huge models for hundreds of tons per hour of ore, coal, limestone, etc.

Write for brochure on Weigh Feeding

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.

BREVITY—identify by IEN - 1173 if you write the maker

Be Sure your cranes are safe . . . use Wagner Crane-Bridge Brake Systems

Wagner Hydraulic Brakes provide even the heaviest cranes with controlled deceleration and smooth, precise stops . . . as accurate and easy as braking an automobile . . . and just as safe.

If your cranes are not equipped with Wagner Brakes, we can show you how simple it is to install a modern hydraulic system. If you now have old-style Wagner Brakes, your system can be quickly modernized with our complete conversion kits. Bulletin H—40 gives complete information—write for your copy.

Only Wagner Hydraulic Braking Systems give you all these features:

- New Combination Service and Parking Brake
- New Remote Control Bleeder
- New Self-Centering Device
- New Systems easy to install
- Old Systems easily modernized

Wagner Electric Corporation

6414 PLYMOUTH AVENUE
ST. LOUIS 14, MO.

ELECTRICAL EQUIPMENT AND AUTOMOTIVE BRAKE PRODUCTS

BREVITY—identify by IEN - 1174 if you write the maker

Costs CUT IN HALF with new electrical tape

Splice, wrap cables and bus bars with one tape instead of two. No packs, no wraps or compounds needed under Polyken Polyethylene No. 822. Application and splicing time cut in half. No. 822 stretches, conforms to irregular surfaces, resists moisture, acids and corrosion. Dielectric strength 10,000 volts.

Write for free samples and folder, "Tape is a Tool." Polyken, Dept. IEN, 222 West Adams St., Chicago 6, Ill.

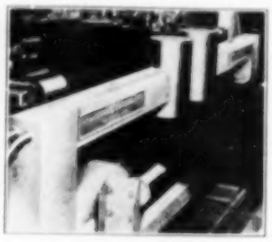
ONE OF THE NEW
Polyken ELECTRICAL TAPES
TAILORED TO YOUR JOB

Polyken Industrial Tape Department of Kauer & Black, Division of The Kendall Company

BREVITY—identify by IEN - 1175 if you write the maker

GAGE . . Electronic equipment reads thickness in a moving strip

Source: INDUSTRIAL NUCLEONICS CORP.
1203-7 Chesapeake Ave., Columbus 12, Ohio



Eliminates sampling costs

Model R is a new twin assembly of the company's Beta Ray gage, previously described IEN-866-51. The new design provides readings directly in sq yd. weight of a moving web with continuous accuracy to plus or minus 1 per cent. The twin assembly permits simultaneous measurements on each side of the sheet so the operator can control thickness accurately across the sheet width. The heads also position automatically across the sheet to present a profile picture of the processing rolls. Four gage sizes apply 24, 36, 48 and 60 in. in from the sheet edge.

Radioactive material enclosed in a capsule is mounted in each of the two heads below the work to direct radiation upward through it to detectors on the opposite face. These detectors measure the amount of radiation that penetrates the sheet and transmit it through amplifying equipment to an electronic strip chart recorder.

The assembly includes the automatic control to position the measuring units across the sheet for profile readings and also a control to select desired weight ranges. An indicator connects to the equipment to provide readings at a distant point. Target and tolerance-marking pens trace records. Additional pens are available to record the weight range and the sheet position of each head.

BREVITY—identify by IEN - 1176 if you write the maker

DRIVE . . Hydraulic power unit with pumps, motor, valve, reservoir

Source: RUCKER CO.
4226-30 Hollis St., Oakland 8, Calif.

Plugs into electric circuit

Wheel mounting permits portable application of the company's new heavy-duty hydraulic power unit. It has been designed to provide hydraulic pressure for testing, to modernize old hydraulic equipment and to serve as a source for emergency power. The pump is fixed-volume design and can be specified in a range of sizes to 60 gpm. It draws fluid from a built-in 100-gal. tank or from an outside source.

Assembly includes a filter, built-in relief valve, flow meter, pressure gages, electric controls, all assembled in a welded steel housing. The unit illustrated rates 32 gpm. at 3,000 lb. and is driven by a 75-hp. motor. Overall dimensions are about 7½ by 4 by 4 feet. Weight is about 3,750 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 1177 if you write the maker

Made especially for YOUR job!

RO-FIN

TUBES

- Straight Lengths
- Custom Designed Coils
- U-Bends
- Unusual Combinations

ROME EXTENDED SURFACE HELICAL FIN TUBING

comes in many sizes. Fins are solder bonded for permanent integral contact. Used extensively for building refrigeration condensers, blast air cooling or heating coils, inter-coolers and after-coolers, dry cleaning recovery coils. Write for details.

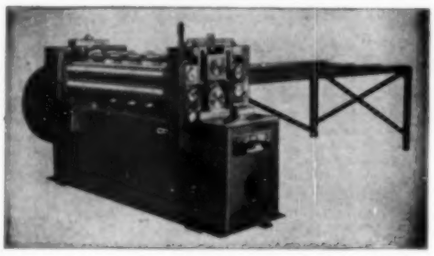
ROME
TURNEY RADIATOR COMPANY

200 East Front Street Rome, New York

BREVITY—identify by IEN - 1178 if you write the maker

RAFTER GANG SLITTER

For Lasting Accuracy



With or without feed rolls for the slitting of varied widths and gauges of metal. Machined and accurately ground cutter shafts made of high-grade carbon steel. Machine cut gears. Generous size bearings. Vertical adjustment of upper spindles allows regrinding of double edge type cutters. By removing two bolts, the end housing is drawn from cutter shafts permitting quick change of cutters. Spacer collars machined and marked for particular job, easily and simply removed for change over of various slitting widths. All features represent accuracy, speed and economy.

RAFTER MACHINE COMPANY, INC.
SINCE 1917
249 Stephens Street Belleville 9, N. J.
COLD ROLL FORMING MACHINES
& PRESS BRAKE FORMING DIES

BREVITY—identify by IEN - 1179 if you write the maker

Now a new name to start our second half century . . .

CHICAGO METAL HOSE CORPORATION

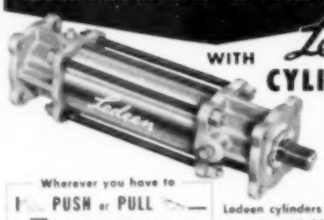
Flexonics *Corporation*

To better reflect the expanding activity of the company, the name of the Chicago Metal Hose Corporation has been changed to FLEXONICS CORPORATION coincident with our 50th anniversary.

FLEXONICS CORPORATION
Formerly Chicago Metal Hose Corporation
1335 S. Third Avenue, Maywood, Illinois
Manufacturers of flexible metal hose and conduit, expansion joints, metallic bellows and assemblies of these components.
In Canada: Flexonics Corporation of Canada, Ltd., Brampton, Ontario

BREVITY—identify by IEN - 1180 if you write the maker

REPLACE COMPLICATED MECHANISMS WITH *Ledeen* CYLINDERS



Wherever you have to
PUSH or PULL
LIFT or LOWER
PRESS or SQUEEZE
TILT or TURN
OPEN or CLOSE

Ledeen cylinders provide positive, dependable power and pressure in straight line motion. Designed for air, oil, or water operation, they are uniform in design and construction, affording a wide number of variations and adaptations. Ledeen cylinders are easy to install, occupy minimum space, and are built for long, economical service.

Standard Ledeen cylinders and mountings are available from distributors' stocks in major cities. Special cylinders if required. J.I.C., of course.

Ledeen CYLINDERS ARE GOOD CYLINDERS

Write for Bulletin 500

Ledeen Mfg. Co.
1602 San Pedro St.
Los Angeles 15, Cal.

▼ BREVITY—Identify by IEN - 1181 If you write the maker ▼

AMERICAN

FLEXIBLE METAL CONNECTORS

—ready to solve your piping problems: vibration, misalignment, flexing, cramped-space installations, etc., while conveying air, oil, steam, gases, liquids, grinder dust, etc. Easily attached, long-lasting, low maintenance. Various alloys, assemblies in standard sizes to your specifications. Write for Quick Reference Catalog CC-500. The American Brass Company, American Metal Hose Branch, Waterbury 20, Conn. In Canada: The Canadian Fairbanks-Morse Company, Ltd.

wherever connectors must move . . .

American ANACONDA

FLEXIBLE METAL HOSE AND TUBING

▼ BREVITY—Identify by IEN - 1182 If you write the maker ▼

CHROMALOX

Electric **STRIP HEATERS**

For fast, dependable, on-the-spot heat

Quick, Easy Installation—Economical Operation

Chromalox Electric Strip Heaters are modern industry's rugged tool for putting heat wherever it is needed—as in dies, tanks, pipelines, ovens and countless other spots. Chromalox Units can be clamped to any flat or curved surface. They can be tailored to your needs, anywhere a little or a lot of dependable heat is wanted. Easily installed, often with existing power lines, they produce the exact amount of heat required. Lengths from 4" to 96", width from 1" to 2½". See how multi-purpose Chromalox Electric Strip Heaters fit into your plant operations.

Write for Fact Packed CATALOG 50

IB-11

It's yours without obligation.

Industrial Div., EDWIN L. WIEGAND CO., 7505 Thomas Blvd., Pittsburgh 8, Pa.
See *Chromalox Electric Heaters Advertisement*, Page 5

CHROMALOX

ELECTRIC HEAT FOR MODERN INDUSTRY

▼ BREVITY—Identify by IEN - 1183 If you write the maker ▼

NEW REULAND *Slip Ring Motors*

FEATURE SHORTER OVERALL LENGTH VERSATILE, FLAT END BELLS

Reuland Slip Ring Motors provide both (1) variable speed and (2) high starting torque on low starting current. Ideal for crushers, cranes, fans, etc.

FLAT END BELLS permit easy, direct-mounting of equipment on either end.

SHORTER LENGTH assures simpler mounting in tight spaces. (Same dimensions as a squirrel cage motor.) Greater shaft rigidity is obtained through shorter bearing-to-bearing spacing.

WITH GEAR REDUCERS Reuland Slip Ring Motoreducers provide maximum versatility.

AVAILABLE in drip-proof or totally enclosed designs. Wide range of ratings.

Write for engineering folder covering the complete Reuland Line—No. RE-1000 -2.

Inquiries invited on special motors designed to order.

REULAND ELECTRIC CO.

ALHAMBRA, CALIFORNIA • DISTRIBUTORS IN PRINCIPAL CITIES

▼ BREVITY—Identify by IEN - 1184 If you write the maker ▼

MAGNET . . Base and column assembly positions light at a machine or bench

Source: ENCO MFG. CO.
4520-26 W. Fullerton Ave., Chicago 39, Ill.

About $19

New design of the company's permanent-magnet holder, previously described IEN-6303-51, includes a clamp that will hold a standard lamp socket and a flexible-column design so the lamp can be positioned at a machine or bench after the magnet base has been secured in a suitable position on a ferrous metal surface to hold it.

The new unit is known as Miti-Mite No. 250. It includes the lamp socket, the column and the magnetic base with a 6-ft. length of oil-resistant extension cord and a plug. The base containing the magnet is molded plastic measuring 4 by 1¼ by 1⅝ inches. Parallel steel ribs provide for magnet contact on the bottom. A magnet release is included.

▼ BREVITY—Identify by IEN - 1185 If you write the maker ▼

COLORING . . Salt solution and dye to color aluminum products

Source: ENTHONE INC.
440-44 Elm St., Dept. IEN, New Haven 2, Conn.

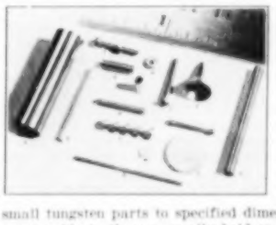
Dip interval is 15 to 120 seconds

Alumox 44 is a new salt supplied in powdered form for solution in water at the rate of 1 lb. per gallon. The resulting solution is employed in a dip tank at a temperature between 180 and 210 deg. F. Dyes are added to provide a desired color and the work is dipped. The coating that results is relatively non-conductive and measures 0.0001 in. in thickness. When it has dried it can be covered with clear lacquer.

▼ BREVITY—Identify by IEN - 1186 If you write the maker ▼

METAL PARTS . . Made of tungsten, limited quantities to specification

Source: PHILIPS LABORATORIES INC.
100 E. 42nd St., 4th Floor, New York 17, N. Y.



New technique has been developed by the company to drill, grind, mill, turn, thread tungsten metal on ordinary metal-working machines. The company offers to employ the new method and equipment to produce limited quantities of small tungsten parts to specified dimensions. Tolerances are comparable to those normally held on steel and brass. Typical pieces are illustrated to give an approximation of size.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1187 If you write the maker ▼

MARK THE LINE OF SAFETY

PAINT TRAFFIC LINES and guide lines fast with the Mark-Rite Liner on concrete, black top or brick surfaces. Economical one-man operation. Gravity feed. Requires no air pressure. Is easy to clean. Thousands in use.

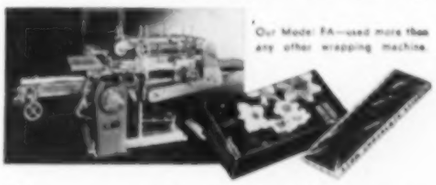
Mark Rite power spray models are available in either self propelled or push type. All Mark-Rite Liners are fully guaranteed. Write for literature. Dept. M-1.

ORDER YOURS TODAY
ONLY $94.50
F. O. B. LOS ANGELES

UNIVERSAL MFG. & SALES COMPANY
8706 S. Santa Fe Ave., South Gate, Cal.

Mark-Rite LINE MARKERS

▼ BREVITY—Identify by IEN - 1188 If you write the maker ▼



Our Model PA—used more than any other wrapping machine.

If your product needs a new package or a wrap . . .

We have the most complete line of wrapping machines in the world — machines that wrap the leading tobacco products, confectionery items, foodstuffs, drugs, etc. We also have cost-cutting machines for bundling packages and making cartons. Over 80 different models!

These machines provide large savings through reduced labor needs, high operating speeds and more efficient use of packaging materials. Most models are easily adjusted for a wide range of sizes and can be adapted for practically any material. Contact your nearest "PACKAGE" representative for detailed information.

Write for leaflet "Packages that Sell"

PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS
NEW YORK · CHICAGO · BOSTON · CLEVELAND · ATLANTA · DALLAS · DENVER · LOS ANGELES · SAN FRANCISCO · SEATTLE · TORONTO · MONTREAL, P.Q.

▼ BREVITY—Identify by IEN - 1189 If you write the maker ▼

***New* AXIOHM RESISTOR for "close quarters"**

Save space . . . save time . . . use Ward Leonard's AXIOHM 5 and 10 watt resistors in "close quarters" applications.

No nuisance of lugs, screws, bolts. Axial leads are the only mounting support needed—easy to cut, shape and solder. Tough, too—can't come loose or pull apart.

Coating is Ward Leonard's famous *Vitrohm*. High heat dissipation—withstands thermal shock, vibration and corrosive atmosphere.

Write for AXIOHM Bulletin. WARD LEONARD ELECTRIC CO., 35 South Street, Mount Vernon, N. Y. Offices in principal cities of U. S. and Canada.

WARD LEONARD ELECTRIC CO.

Result-Engineered Controls

RESISTORS · RHEOSTATS · RELAYS · CONTROL DEVICES

▼ BREVITY—Identify by IEN - 1190 If you write the maker ▼

CHAMPION DECLARES WAR on WASTE

OFFERS 3 PRACTICAL PLANS TO COMBAT COSTLY HANDICAPS TO PRODUCTIVITY

1. Champion's PLANNED CLEANING PROGRAM
Dust and dirt absorb light paid for through electric bills. Champion's Program restores normal lighting efficiency, helps maintain maximum economy.

2. Champion's FLUORESCENT LAMP GROUP REPLACEMENT PLAN Replacing lamps one at a time takes about 20 minutes, interrupts Productivity. "GR" drastically cuts these unnecessary costs.

3. Champion's INCANDESCENT LAMP GROUP REPLACEMENT PLAN
"GR" savings average about 60% in labor time, labor costs alone. Applied to incandescent lamps, "GR" saves even more!

Use any or all 3 Plans for better lighting, greater economy in factories and offices. Champions' "War on Waste" File, containing all 3 Plans with formulas, charts, practical examples, is offered without cost to responsible executives. Write for your copy to

CHAMPION LAMP WORKS
Lynn, Massachusetts

BREVITY—identify by IEN - 1191 if you write the maker

YOU CAN TAKE IT WITH YOU!

BECKER
Self-Contained

SPRAY GUN

PRESSURE-POWERED
with
INEXPENSIVE
CO2
CARTRIDGE

This completely portable spray gun is saving money in many industrial uses. Excellent for maintenance operations. Requires no compressor, motor, or electrical outlet. Has 21 liquid ounce capacity, heavy-gauge, steel container; cast aluminum head; brass and stainless steel inserts. Low cost CO2 cartridge sprays up to one container full, depending on viscosity.

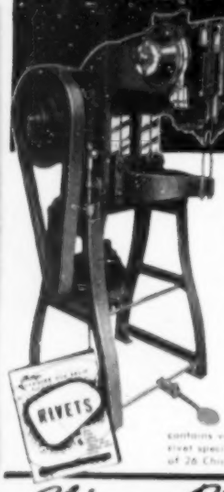
ONLY
$15.95
with three cartridges

Use it for paint, varnish, enamel; oil; fire-proofing, rust-proofing, disinfecting. If your industrial distributor can't supply you, order direct and we will ship postpaid. (Extra CO2 cartridges 10 for $1, postpaid, or buy them from your local dealer.)

SULLIVAN BECKER CO., Dept. 192-B, Kenosha, Wis.

BREVITY—identify by IEN - 1192 if you write the maker

CUT COSTS . . . FASTEN "ON THE DOUBLE" with the Chicago "214" DOUBLE RIVET SETTER



The "214" automatically feeds, inserts and clinches two rivets at a time . . . with speed that may mean a big saving in your fastening costs.

14" throat makes large assemblies easy to handle. For tubular rivets as large as 3/16", or less in length Quick Change Rotary Type Hoppers and Raceways permit a 5-minute changeover to rivets of different size. Adjustable anvils and riveting centers add to its versatility.

Ask us how the "214" can help you cut costs. Send a sample of your problem assembly (or blueprint) for a Free fastening analysis.

FREE CATALOG
contains valuable engineering information and rivet specifications plus illustrated descriptions of 26 Chicago Automatic Rivet Setters.

Chicago Rivet & MACHINE CO.
9602 West Jackson Boulevard, Bellwood (Chicago Suburb) Illinois
Branch Factory: Tyrone, Pa.

BREVITY—identify by IEN - 1193 if you write the maker

Send Coupon Today for Your FREE Copy

"WHY IT PAYS TO ANCHOR YOUR MACHINES WITH *UNISORB*®"

Here's the book that tells you how to

- Avoid destructive floor-drilling with UNISORB machine anchoring . . . the modern way that needs no bolts, no lag screws.
- Eliminate 60%-85% transmitted machine noise and vibration.
- Achieve a safe, dependable machine mounting that lasts for years and years *with no maintenance.*
- Save time, expense and confusion when installing new machinery or repositioning present machinery.

The FELTERS Co.
210-J SOUTH ST.
BOSTON 11, MASS.

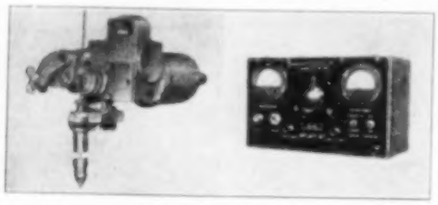
Gentlemen:
Please send me free copy of "Why It Pays to Anchor Your Machines with UNISORB"

NAME
COMPANY TITLE
STREET
CITY & STATE

BREVITY—identify by IEN - 1194 if you write the maker

WELDING . . Automatic arc head, 1/8 to 3/8 in. electrodes, 2,000 amp.

Source: MIR-O-COL ALLOY CO.
310-14 N. Avenue 21, Los Angeles 31, Calif.



No "stuck rod" trouble

Model 944 is a new automatic welding head for application with a user's ac. welding transformer and work-positioning equipment. Electrode feed is downward between a pair of rolls driven by a motor that operates on 110-volt ac. supplied either by the welding voltage through step-up in the control unit or from a separate source. The motor is electrically independent of the positioner and welding transformer or high-frequency power supply so there are no phasing problems.

The feed rolls are made of hardened steel and can be adjusted while on the head for electrode size from 1/8 to 3/8 inch. The feed nozzle is a special alloy developed by the company. Shafts carrying the gears in the aluminum housing are mounted on ball bearings. The head assembly weighs 20 lb. and has a clamp opening to mount on a 1 1/4-in. support bar. Overall height is about 17 inches. Front to back is about 11 inches.

The control assembly mounts a knob adjuster for welding voltage, an on-off contactor switch, a reverse-forward travel switch for positioner control, a remote control button for lowering and raising the electrode, an "inch" button and a retract switch to control the electrode movement manually during set-up and in starting or restarting the arc. The control assembly is in a housing that measures 13 1/4 by 6 by 8 3/8 inches. It weighs 26 1/2 pounds.

BREVITY—identify by IEN - 1195 if you write the maker

TESTING . . Electronic equipment measures and records radio activity

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.

Supplements other protective devices

Health Monitor is a new assembly of electronic equipment to detect, measure, indicate, record dangerous gamma radiation in an area. It sounds an alarm when average tolerance limits are exceeded. The equipment consists of an ionization chamber for wall mounting, a dc. amplifier and an instrument panel that mounts a torque-balance converter, a watthour-meter mechanism, a rate indicator, a cyclometer counter and a recording device. Operation is on 110-volt 60-cycle ac.

Presence of radiation in the atmosphere results in current flow from the ionizer to the amplifier. Output from the amplifier is measured by a milliammeter to provide an indication of the instantaneous radiation present in the area. The torque-balance converter is the actuating element by which the radiation is telemetered to a remote location. It also actuates the watthour-meter mechanism, the counter and the recorder. Overall range is 1/2 to 5 times tolerance. Overall accuracy is plus or minus 10 per cent.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 1196 if you write the maker

Bulletin 712-13 A-C Combination Starting Switches

● Available with fuses or circuit breaker

Allen-Bradley combination starters are popular with machinery manufacturers because (1) they save space, (2) they're easy to install, (3) they provide added safety features, and (4) they're more attractive in appearance than separate disconnect switch and motor starter. Available in seven types of enclosures.

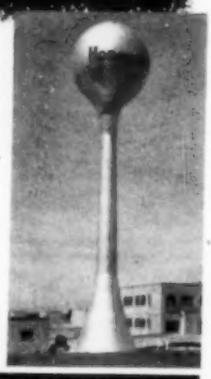
Allen-Bradley Co., 1312 S. Second St., Milwaukee 4, Wis.

ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

BREVITY—identify by IEN - 1197 if you write the maker

MODERN — EFFICIENT for Industrial Water Service

The modern Horton Watersphere at the right provides The Minneapolis Honeywell Regulator Company's new plant with water for air conditioning and other industrial services. Like all elevated steel tanks, the Watersphere *assures more efficient, uninterrupted* water service, day and night. You get water when and where you need it.

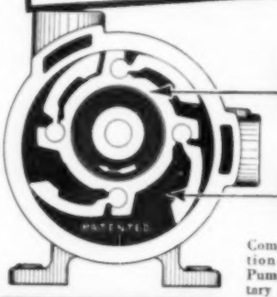


Capacities range from 25,000 to 250,000 gallons. Please state desired capacity, height to bottom, location, and type of service when requesting quotations on Watospheres.

CHICAGO BRIDGE & IRON COMPANY
2123 McCormick Building • Chicago 4, Illinois
Atlanta • Birmingham • Boston • Cleveland • Detroit • Houston
Los Angeles • New York • Philadelphia • San Francisco
Seattle • Tulsa • Washington, D. C.
Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY and GREENVILLE, PA.

BREVITY—identify by IEN - 1198 if you write the maker

LEIMAN AIR PUMPS GIVE YOU *Greater Capacity!*



SMALLER PISTONS
provide
LARGER AIR SPACE

Compare this cross-section of a Leiman Air Pump with any other rotary air pump. It is the working air space that counts—and Leiman provides 2 to 3 times more area, per size and weight of pump.

HINGED WINGS *take up their own wear*

Handle air pressure, vacuum or suction jobs with much smaller Leiman Rotary Air Pumps. You save weight and space—run at lower r.p.m.—have fewer moving parts—no springs, gaskets or packings—no tips to renew—nothing to give trouble. Leiman patented leak-proof hinged wings maintain fully-rated pressure or vacuum for years and years.

What is your air application?

Send us details. Leiman engineers offer over 60 years' experience with thousands of air applications. Catalog and Application Data sent on request.

For Pumps—write DEPT. A

LEIMAN *Rotary* **AIR PUMPS** (Pressure — Vacuum)

Metal Cleaning and Finishing without acids or scratch brushes
Fast, low-cost, safe, uniform!

LEIMAN SANDBLASTS

Clean up scaly, rusty, rough surfaces—prepare better surface for plating, enameling or painting—stencil letters and designs—more rapid matte or satin finishes. Use unskilled help. Many models, treadle or automatic.

For Sandblasts—write DEPT. B

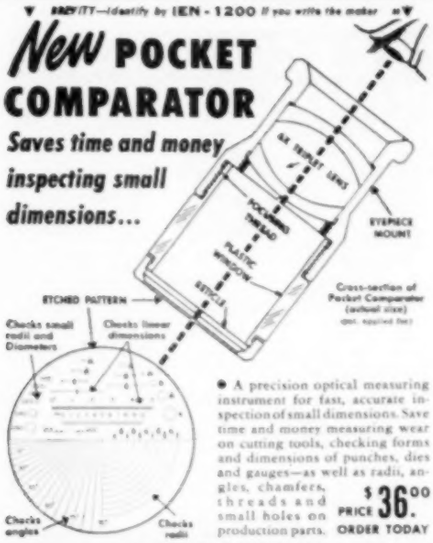
LEIMAN BROS., Inc. 166 Christie Street Newark 5, N. J.

AIR PUMPS • AIR MOTORS • SAND BLASTS • DUST COLLECTORS

BREVITY—Identify by IEN - 1200 If you write the maker

New POCKET COMPARATOR

Saves time and money inspecting small dimensions...



● A precision optical measuring instrument for fast, accurate inspection of small dimensions. Save time and money measuring wear on cutting tools, checking forms and dimensions of punches, dies and gauges—as well as radii, angles, chamfers, threads and small holes on production parts.

PRICE $36.00 ORDER TODAY

a product of BELL & HOWELL CO. distributed by

Write for FREE descriptive folder

See Your National Tool Co. Representative or Dealer Jobber

NATIONAL TOOL CO.

11220 Madison Avenue Cleveland 2, Ohio

BREVITY—Identify by IEN - 1201 If you write the maker

THERMO-MAT

keeps feet warm!

ONLY $11.95 DELIVERED

TAKES DISCOMFORT OUT OF COLD FLOORS!

THERMO-MAT radiates live, penetrating heat from floor to knees! Insures foot and leg comfort wherever you stand or sit — in cabs, booths, at desks, check stands, counters and countless other locations! Melts *ice* and snow on doorsteps, etc. Safe and effective even on damp concrete. Economical — operates for a few cents per day. Reversible, long-lived neoprene rubber compound cover, lasts for years. Measures 14" x 22". Plugs into any 110-120 Volt electrical outlet. Maintains uniform temperature. Order by mail today! State type of floor; outdoors, indoors, heated or unheated location. $11.95 delivered! Thoroughly tested. Thousands used. Performance guaranteed! Free Folder!

Sold Direct Only—No Jobbers or Dealers

THERMO-MAT CO.

814-1 So. Robertson Blvd., Los Angeles 35, Calif.

BREVITY—Identify by IEN - 1202 If you write the maker

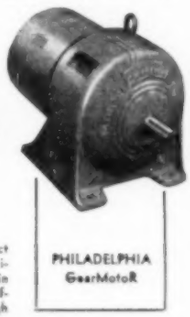
THE ANSWER TO

COMPACT

DEPENDABLE

PRECISION-BUILT

MOTORIZED SPEED REDUCTION



PHILADELPHIA GearMotoR

These units greatly simplify the direct application of electric drive to individual machines. They are available in single, double or triple reductions, offering a range of speeds: 780 through 7.5 r.p.m. Motor rating from 1 h.p. through 60 h.p.—A-c or D-c. The motors and gear units are each self-contained and readily separated . . . gears in multi-reduction units may be inspected, without uncoupling from driven machine.

GearMotoR conforms to the recommended standards of the American Gear Manufacturers Association and the National Electrical Manufacturers Association.

CATALOG

Send for 42-page illustrated GearMotoR catalog GM 48, containing full information and data necessary for ordering and please use your Business Letterhead when requesting same.

PHILADELPHIA GEAR WORKS, Inc.

Industrial Gears and Speed Reducers

Erie Avenue and G Street Philadelphia 34, Pa.

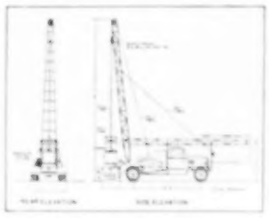
NEW YORK • PITTSBURGH • CHICAGO • HOUSTON • LYNCHBURG, VA. •

In Canada: William and J. G. Greey Limited, Toronto

BREVITY—Identify by IEN - 1203 If you write the maker

CONSTRUCTION . . Earth borer drills 16 to 84 in. hole to 200 feet

Source: AMROCTA CO.
50 Church St., Room 1965, New York 7, N. Y.



Basic assembly $9,500

Model 150-A is a new Calweld bucket-type earth-drilling machine for use in construction work, well drilling, exploring and testing. Overall capacity is for holes between 16 and 84 in. in diameter to a maximum depth of 200 feet. The equipment is designed so its ring-type driving member will pass a bucket measuring 40 in. in diameter. The assembly is standard with a 4-in. subframe designed to mount on a 2-ton or larger truck or on a trailer the company can supply.

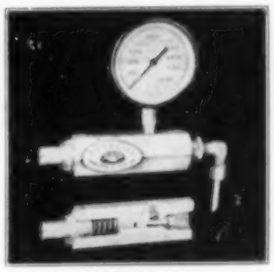
Buckets of various design are equipped with teeth on their lower face and with openings suitable to handle earth of given variety. The bucket is secured for rotating drive at the lowered end of a 3½-in. square steel shaft measuring 23 ft. in length. This shaft carries a sliding yoke that rides inside the ring driving mechanism. The upper end of the shaft is supported in a swivel that attaches by wire rope to the engine-driven winch that forms part of the assembly.

Drive for the winch and also for the rotating movement is by a 40 to 50-hp. gasoline engine or, to specification, by a diesel engine of similar capacity. As the bucket is rotated it digs into the ground until it has been filled. Rotation then is stopped and the bucket is raised up through the driving mechanism and dumped prior to return for further drilling.

BREVITY—Identify by IEN - 1204 If you write the maker

INSULATING . . Pressure snubber protects gage against excess pressure

Source: SPRAGUE ENGINEERING & SALES CORP.
Budlong Ave. at 135th St., Gardena, Calif.



The gage is safe

Gasketed piston in the main barrel of this new Gauge Shut Off is backed up by a spring and threaded adjustment. It blocks the flow line between a pressure inlet at the end and a side outlet to which a pressure gage will be connected. The piston stands in open position to permit flow to the gage as long as inlet pressure is below that at which the spring is set. If the inlet pressure exceeds this amount the piston will immediately move back, close the line and prevent gage damage.

Five ranges for low-pressure operation are between 30 and 300 pounds. Seven ranges for high pressure are between 500 and 5,000 pounds. The inlet is threaded for ½-in. pipe. Outlet to the gage is for ¼-in. pipe. Overall length is about 5½ inches. The body is 1½-in. hexagon stock.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

BREVITY—Identify by IEN - 1205 If you write the maker

Continental CHASER AND CUT-OFF WHEEL GRINDER

Keeps tools sharp

One machine does both—it sharpens pipe thread chasers at one end—and pipe and tube cut-off wheels at the other end. Keeps your tools ready for instant use—always sharp. *Also, Manufacturers of Cut-off Machines and Wheels.*

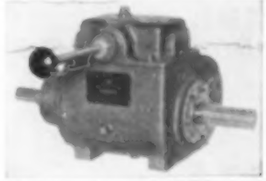
Request Circular, Today.

Continental MACHINE CO.

SINCE 1919

1952 N. MAUD AVE. • CHICAGO 14, ILL.

BREVITY—Identify by IEN - 1206 If you write the maker



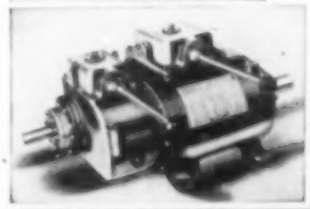


plate or platform mounting

9000-B (1-5 H. P.) 5 H. P. capacity with input speed of 900 r. p. m. Gear Ratios 1:1 - 2:1 - 3:1 - 4:1. Special ratios at extra cost.

8100-B (5-10 H. P.) 10 H. P. capacity with input speed of 900 r. p. m. Gear Ratios 1:1 - 2:1 - 3:1 - 4:1. Special ratios at extra cost.

9300 (30 H. P. capacity with input speed of 900 r. p. m.) 8 speed. Changes in Geometric Progression of 1.29 (Total reduction of 6:1).

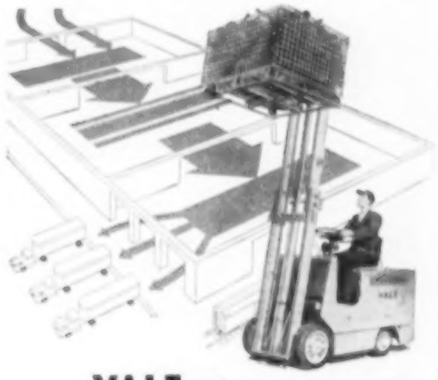
Send for catalog and complete information.

up to 50 h. p.

WESTERN TRANSMISSIONS

WESTERN MANUFACTURING CO. • 2208 HUNTER • DETROIT • MICHIGAN

BREVITY—Identify by IEN - 1207 If you write the maker



YALE electric trucks travel this route longer —for less

YOU CAN SAVE up to 75% of your production, receiving, shipping and storage handling costs with dependable, longer-lasting YALE Electric Trucks. Discover now the *extra* savings YALE Electric Trucks bring you—in operating, maintenance and replacement costs. Mail the coupon today.

THESE EXCLUSIVE YALE FEATURES KEEP TRUCK OVERHEAD DOWN

- Exclusive Hypoid Gears give greater drive power, longer drive life
- Exclusive Involute Spline Drive Shaft, built for continuous resistance to wear fatigue, outlasts all others
- Special Rolled Lift Channels with lifetime sealed ball bearing channel rollers won't wear, won't spread—need never be replaced
- Exclusive YALE design makes every part accessible for fast, cost-saving "minute-maintenance"

YALE & TOWNE

The Yale & Towne Manufacturing Co., Philadelphia 15, Pa.

YALE is a registered trade mark of The Yale & Towne Mfg. Co.

—MAIL THIS COUPON TODAY—

The Yale & Towne Manufacturing Co., Dept. 362
Roosevelt Blvd. & Haldeman Ave., Philadelphia 15, Pa.

I want the most from materials handling savings.

☐ Please send free detailed literature on the YALE ELECTRIC TRUCK

☐ Please have your local Representative call on me

COMPANY _____

NAME _____ TITLE _____

STREET _____ CITY _____ STATE _____

In Canada write: The Yale & Towne Mfg. Co., St. Catharines, Ont.

YALE GAS AND ELECTRIC TRUCKS • YALE WORKSAVERS
YALE HAND TRUCKS • YALE HAND AND ELECTRIC HOISTS

BREVITY—identify by IEN - 1209 if you write the maker

Rolling Steel Doors

Manually • Mechanically • Power Operated

No other type of door offers as many desirable features as a good Rolling Steel Door . . . open or closed, they occupy no usable space inside or outside the opening. All-metal construction ensures permanence and a lifetime of continuous trouble-free service. Push-button controlled vertical roll-up action provides the quick, timesaving door operation demanded today by all industrial and commercial concerns. When you buy Mahon Rolling Steel Doors you get the latest developments in doors of this type—comparison will convince you. See Sweet's File for complete information, or write for Catalog No. G-52.

THE R. C. MAHON COMPANY
Detroit 34, Michigan • Representatives in All Principal Cities

MAHON

BREVITY—identify by IEN - 1210 if you write the maker

The FIRST Roller Coaster

Originally known as the Switchback, the first Roller Coaster was built in Paris in 1816. The crude originals were soon discontinued because of numerous fatalities. However, in 1880 they were again introduced in Paris and the United States simultaneously and have since been enjoyed by millions.

JERVIS B. WEBB CO. was the FIRST to develop **Horizontal Roller Curve Assemblies**

Typical Webb Horizontal Roller Curve Assembly—The Webb Roller Curve is the most economical, serviceable and satisfactory unit for carrying an overhead conveyor chain around a horizontal curve. Chain and trolleys are held in the correct vertical position by ball bearing rollers which reduce both friction and wear to a minimum. Roller Curves are made in various radii and arcs for varying needs. Rollers are mounted between two segment bars.

The Working Part Of A Roller Curve Is The Roller—Rollers used in Webb Roller Curves are specially designed and built for the service. Available for two types of lubrication . . . oil hole in cover and grease fitting in drilled center pin. In either case, the Roller Curve is assembled so as to make lubrication easy. The design of the Roller Curve is such that the rollers are readily replaceable without dismantling.

CONVEYOR ENGINEERS AND MANUFACTURERS
JERVIS B. WEBB COMPANY
3012 ALPINE AVE. DETROIT 4, MICH.
OFFICES IN PRINCIPAL CITIES
FACTORIES IN DETROIT . . . LOS ANGELES . . . HAMILTON, ONT.

BREVITY—identify by IEN - 1211 if you write the maker

NEW!

RIEHLE
HYDRAULIC UNIVERSAL
TESTING MACHINES CATALOG

Now, a *complete* 32-page catalog on Hydraulic Universal Testing Machines, from 10,000 lbs. through 400,000 lbs. capacity. Illustrations, specifications, operating details, accessories.

SEND FOR YOURS TODAY!

RIEHLE TESTING MACHINES DIVISION, DEPT. IEN-152
AMERICAN MACHINE AND METALS, INC.
EAST MOLINE, ILLINOIS

Without obligation, send new Riehle Hydraulic Universal Testing Machines catalog.

FIRM NAME
ADDRESS
CITY ZONE STATE
SENDER'S NAME

BREVITY—identify by IEN - 1212 if you write the maker

PROCESSING . . Plastic tank of unplasticized polyvinyl chloride

Source: MUNRAY PRODUCTS INC.
12398-402 Cressburn Ave., Cleveland 11, Ohio

Also for hoods, vents, ducts

Two new types of processing tank are now available in specified sizes of the company's Polydur unplasticized rigid polyvinyl chloride. One is in the self-supporting construction made of sheets from ¼ to 1 in. in thickness. The other is in the form of a liner for application in a wood, concrete or metal tank. In the latter case the sheet thickness is ⅛ inch.

The sheet material can be formed and welded into required contours at temperatures of 250 to 300 deg. F. The finished tank will not deteriorate with age and is not subject to attack by acids, alkalis, salts, oxidizing agents, oils, greases, alcohol, gasoline, carbon tetrachloride up to 170 deg. F. Tensile strength of the material is 5,500 to 6,000 lb. per square inch. It will not support combustion, remains serviceable at subzero temperatures that may be encountered.

BREVITY—identify by IEN - 1213 if you write the maker

REAMING . . Die shop tools in fractional and letter sizes

Source: LAVALLEE & IDE INC.
100 Grape St., Chicopee, Mass.

Ask for reamer booklet

Eight sets, including 11 to 60 reamers per set, are available in a new line of die-shop reamers in helical and straight-flute and straight-shank designs. Sizes start at No. 1 and at A. They extend to ½ in. and Z sizes. List price is $18 to $104.50. Sizes through $\frac{3}{16}$ are ground from the solid. All have external centers. Literature is available.

BREVITY—identify by IEN - 1214 if you write the maker

HOIST . . Block attachment doubles reach of the Lug-All hoist

Source: LUG-ALL CO.
329-33 E. Lancaster Ave., Wynnewood 3, Pa.

Longlift is a new assembly of hook-equipped blocks, $\frac{3}{16}$-in. aircraft-type steel cable and load hook. It doubles the normal 15-ft. reach of the company's Model-3000 portable ratchet-operated hoist, similar to the unit previously described IEN 11997-50. The new attachment weighs 6 lb., provides 750-lb. load capacity. Minimum distance between the hooks is 10 inches. The hoist on which it applies lists at $33.25. The unit itself is about $19.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 1215 if you write the maker

Use Matthews quick-drying, non-smearing inks that leave a clean, legible impression . . . the finest stencil brushes . . . tough, durable stencil papers

INKS
BRUSHES
PAPER

For prompt, safe deliveries, stencil every shipment. Write today for complete information on Matthews Shipping Room Supplies . . . to help you "Ship the Best Way."

JAS. H. MATTHEWS & CO.
3948 FORBES ST. • PITTSBURGH 13, PA.
NEW YORK • BOSTON • PHILADELPHIA
CHICAGO • CLIFTON, N. J.

BREVITY—identify by IEN - 1216 if you write the maker

CESCO RIGHT... before your Eyes!

Comfortable, Convenient . . . SAFE. CESCO Coverlite Goggles fit *right* over most regular glasses and rest gently on nose, brow and cheeks. Lightweight one-piece frames are clear transparent (#562) or green plastic (#556) and are fitted with clear Super Safety replaceable glass lenses. *Right* . . . for protection against impact. *Right* . . . for workers in your shop. CESCO Coverlite Goggles are *"RIGHT . . . before your eyes."* **Send TODAY** *for CESCO literature and name of your CESCO safety equipment distributor.*

CHICAGO EYE SHIELD COMPANY • 2126 Warren Blvd. • Chicago 12, Ill.

CESCO FOR SAFETY

OFFICES IN: Atlanta, Birmingham, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Detroit, East Orange, Houston, Kansas City, Knoxville, Little Rock, Los Angeles, Marcus City, N. Y., Milwaukee, Montreal, Philadelphia, Pittsburgh, Salt Lake City, San Francisco, Spokane, St. Louis, St. Paul, Toledo, Tulsa

BREVITY—identify by IEN - 1217 if you write the maker

. . . when you depend on

UMH METAL HOSE

for long, efficient service

Profit by the experience of thousands of others who have proved that UMH METAL HOSE renders maximum service under stress, costs less in the long run, gives greater satisfaction. Name any conveyance problem where flexibility and durability are a must . . . and UNIVERSAL will provide the right type of metal hose for the most exacting job.

For searching liquids, gases . . . for steam, chemicals and inflammables, it's *UMH Seamless Flexible Tubing*, leakproof under high pressures and resistant to vibration.

For high-temp steam . . . for oil, solvents, hot tar or asphalt, it's *UMH Interlocked High Pressure Hose* with asbestos packing.

For conveying sand, grain, lime, dust and other bulk materials, it's *UMH Interlocked Exhaust and Blower Tubing*, up to 12" I. D.

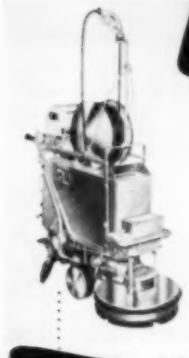
This is just a part of the complete line of UMH Flexible Hose that solves every conveyance problem.

Send us an outline of your requirements . . . and ask for Catalog U-101 . . . today!

UNIVERSAL METAL HOSE CO.
2131 S. Kedzie Avenue • Chicago 23, Illinois

▼ BREVITY—Identify by IEN - 1219 if you write the maker ▼

NEW Self-Propelled SCRUBBER-VAC... .... CUTS CLEANING TIME 2/3!



For Small-Area Factories (2,000 to 15,000 sq. ft. of floor)

The new 110P Finnell Scrubber-Vac cleans floors in approximately one-third the time required with a conventional 15 or 18" scrubber-polisher. And the new 112P also handles the dry work—polishing, steel-wooling, etc. Has 18" brush ring. Vacuum performs quietly. The machine can be leased or purchased.

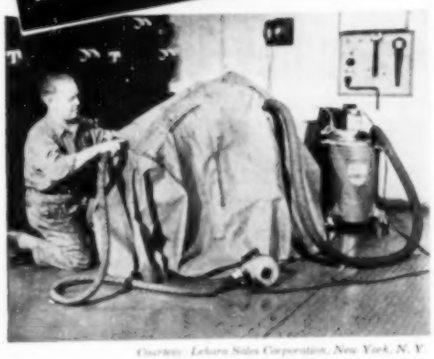
Applies cleanser, scrubs, and picks up—in ONE operation!

FIND OUT WHAT YOU WOULD SAVE . . . with a Finnell Scrubber-Vac. Finnell makes several models and sizes. For demonstration, consultation, or literature, phone or write nearest Finnell Branch or Finnell System, Inc., 2602 East Street, Elkhart, Indiana.

FINNELL SYSTEM, INC. Designers of Floor Scrubbing and Polishing Machines — FINNELL — DEALERS IN ALL PRINCIPAL CITIES

▼ BREVITY—Identify by IEN - 1220 if you write the maker ▼

Better rubber products are made with Du Pont NEOPRENE



Courtesy: Lehara Sales Corporation, New York, N. Y.

Neoprene-coated cover simplifies motor generator cleaning . . . resists oil, grease and abrasion

A new method for cleaning motor generators and other machinery uses a tent-like enclosure to prevent spreading of dust and dirt. The cover is made of heavy cotton drill, coated on both sides with neoprene. It is fitted with 15 zipper closures so that an air blower may be inserted and used with maximum effectiveness on any part of the equipment. The dirt dislodged by the blower is removed from the enclosure by a 210-CFM vacuum unit . . . without contamination of nearby machines or discomfort to the operator.

Du Pont neoprene proved the most suitable coating material for protecting the cotton drill cover . . . because neoprene stands up under constant contact with oil and grease and the abrasive action of sharp dirt particles. And, neoprene's resistance to flexing means the cover can take plenty of rough handling.

Thousands of products used in industry today depend on neoprene for long, dependable service under rugged conditions. While Du Pont makes no finished products of neoprene, your rubber goods manufacturer or distributor will gladly tell you about the neoprene products he supplies.

FREE! THE NEOPRENE NOTEBOOK

Full of interesting stories. New, unusual applications of neoprene to build new products . . . improve old products . . . reduce maintenance costs. Write today for your free subscription. E. I. du Pont de Nemours & Co. (Inc.), Rubber Chemicals Division D-2, Wilmington 98, Delaware.

NEOPRENE

The rubber made by Du Pont since 1932

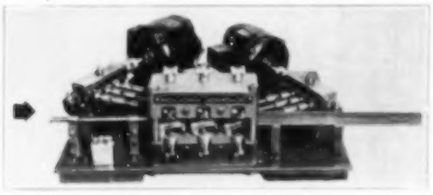
DU PONT

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

▼ BREVITY—Identify by IEN - 1222 if you write the maker ▼

STRAIGHTENING . . Roll type machine for 1/16 in. rod to ¼ in. tube

Source: MACKINTOSH-HEMPHILL CO. 899-903 Bingham St., Pittsburgh 3, Pa.



Rides on anti-friction bearings

Model AYZ is a new miniature straightener employing the same principle of angularly-positioned rolls that is used in the company's other and much larger straightening equipment for bar and tube. Three sets of identically-contoured twin cross rolls, measuring ¾ in. in diameter, are all power driven by two ⅛-hp. motors for a forward movement of the work at the rate of 100 ft. per minute. The middle pair of rolls can be adjusted vertically to provide the off-set for required straightening effect. Each of the rolls in all three sets is adjustable for angle so each bears along its face on a given run of work.

The work is fed in through a tube guide at the left-hand side. It passes between the three sets of rolls to issue straight at the right-hand side completely free from cuts or spiral run marks. The machine will straighten within 0.005 in. in 2 ft. a ⅛-in. alloy-steel bar. It will handle stock as short as 6 in. in length for exact straightness from end to end. Overall dimensions are 22 by 19 by 8 inches.

▼ BREVITY—Identify by IEN - 1223 if you write the maker ▼

HEAT TREATING . . Electric furnace for temperatures to 2,000 deg. F.

Source: COOLEY ELECTRIC MFG. CORP. 913-17 Daly St., Indianapolis 2, Ind.

One of four sizes

New size, with an interior measuring 15 by 30 by 12 in., has been added to the company's Type-BL line of electric heat-treating furnaces. As in the previous design the construction includes embedded heating elements in ceramic slabs located on the sides, bottom, top, rear wall and furnace door. Each is in removable assembly to permit element renewal with a minimum loss of time. The slabs also act as baffle walls to provide air spaces surrounding the elements.

The door at the front is essentially the complete front wall of the furnace in counterbalanced arrangement so it can be raised without effort for access to the work. It seals in place in "down" position to prevent heat loss.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 60

▼ BREVITY—Identify by IEN - 1224 if you write the maker ▼

More Production for Your Glove Dollars

Rex Extra Duty, red neoprene coated fabric, curved fingers, non-slip grip, profiles palm and inserted thumb design. Knit wrist.

PIONEER **Stanzoils**

It pays you to buy gloves that permit fast and easy work, with protection. No one or two gloves fit all jobs. There's more production in the right glove for each job. PIONEER's new Stanzoil catalog shows you how to buy. *Unbiased advice—Stanzoils include all kinds of liquidtight gloves:* all-neoprene, neoprene and vinyl-coated. 52 styles, weights, sizes, colors. Get dexterity plus utmost protection. Increase production, avoid work stoppage, satisfy workers—write for your Stanzoil catalog today!

Industrial Products Division

The PIONEER Rubber Company
635 Tiffin Road • Willard, Ohio

STANZOIL — OVER 30 Years OF QUALITY GLOVE MAKING

▼ BREVITY—Identify by IEN - 1225 if you write the maker ▼

SQUARE D's DESIGN LEADERSHIP SAFETY SWITCHES

Types A*, C, and D...30, 60, 100, 200 Amp. Sizes

40 years' design leadership is reflected in the many design and operating features of this completely new line. **Type A** switches have full cover interlock, visible blades and magnetic arc plates as well as a quick-make and break mechanism, dead front line terminals, positive pressure jaws and fuse clips, silver plated current carrying parts and removable pressure connectors.

*Types C and D resemble Type A in appearance but differ in construction details.

Write for Bulletin 3100 which gives complete details. Address Square D Company, 6060 Rivard St., Detroit 11, Mich.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY
DETROIT • MILWAUKEE • LOS ANGELES

▼ BREVITY—Identify by IEN - 1226 if you write the maker ▼

STOP ACCIDENTS with BRADY SAFETY SIGNS

Here's an AMAZING BRAND NEW SAFETY SIGN that will be welcomed by Safety Men! Brady Safety Signs stick to wood, glass, metal, concrete, etc. without moistening. May be applied to any clean surface in a jiffy. No screws, nails, bolts or skilled help necessary. All you do is peel from card, apply where wanted and the sign is up to stay.

Brady Safety Signs are made of durable cotton cloth, Silicone Coated to resist dirt, grime and moisture. CONFORM TO ASA Standard Z35.1-41. Select your requirements from a complete catalog of standard safety messages. Cost only a few cents per sign. Immediate delivery. Specials made to order.

WRITE FOR Free SAMPLES AND USEFUL CATALOG

MANUFACTURERS OF SELF-STICKING PRODUCTS

W. H. BRADY COMPANY
1635 E. SPRING STREET • CHIPPEWA FALLS, WIS.

▼ BREVITY—Identify by IEN - 1227 if you write the maker ▼

SUPER-VOLTAGE TESTING OF OKOLITE-OKOPRENE

assures lasting circuit security

Tiny and hidden imperfections in electrical cables can be most treacherous, since they may not show up at ordinarily specified test voltages. Only by the use of super-voltages, both a-c and d-c, are such concealed defects disclosed.

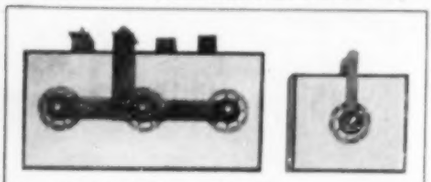
Okonite super-voltage testing is the severest in the industry. A-c voltages far higher than standard specifications, plus d-c tests three times as high as ordinary a-c tests, are routine on Okolite-Okoprene cables.

Only a cable made with premium materials and the exclusive Okonite strip process can reliably pass such tests. To be sure of lasting circuit security in your plant, specify Okolite-Okoprene. Ask for Bulletin IE-1055. The Okonite Company, Passaic, N. J.

THE BEST CABLE IS YOUR BEST POLICY

OKONITE *insulated wires and cables*

BREVITY—identify by IEN - 1228 if you write the maker



SYNTRON

SELENIUM RECTIFIERS

1" sq. to 12" x 16" cells — in stacks, or single cells for customer assembly.

Made by a new process to a uniform, high quality, for continuous heavy-duty service.

Write for literature

SYNTRON CO.
410 Lexington, Homer City, Pa.

BREVITY—identify by IEN - 1229 if you write the maker

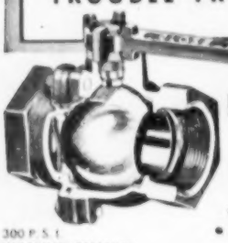
A GRINDING AND POLISHING UNIT!

As shown here, the 6-72 Vonnegut Abrasive Belt Unit is set up as a *lathe attachment* for cylindrical grinding and polishing. The same basic unit can be used as a *floor stand* and also as a *swing machine*. But that's not all—it has proved its value as a grinding and polishing unit for special machines, and as an attachment for other machines. There is the possibility that it can be used for an entirely new application in *your* plant. If you find that possibility, write us about it—we'll be glad to help you work out the details. Send for Bulletin No. 62.

VONNEGUT MOULDER CORPORATION
1027 MADISON AVENUE • INDIANAPOLIS 25, IND.

BREVITY—identify by IEN - 1230 if you write the maker

ENGINEERED TO GIVE LONGER TROUBLE-FREE SERVICE



ROCKWOOD ball VALVES

300 P. S. I. WORKING PRESSURE

- *LEAK PROOF SERVICE*
- *FULL ROUND FLOW*
- *QUICK OPENING & CLOSING*

The *most dependable and efficient performing* Valve on the market. Every Rockwood Valve is designed and built to give you longer and more economical service.

The full round flow — leak proof service — quick opening and closing features of the Rockwood Ball Valve give you better and faster service with no maintenance. When you install a Rockwood Valve on the line, it does the job better.

For use in oil refineries, food, paper, textile, chemical and rubber plants, etc. Write for sizes and prices and for bulletin V-4.

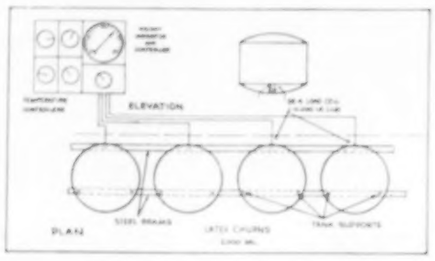
Distributors in all principal cities.

ROCKWOOD SPRINKLER COMPANY
40 HARLOW ST. WORCESTER 5, MASS.

BREVITY—identify by IEN - 1231 if you write the maker

WEIGHING . . Tank filling control is actuated by Baldwin load cells

Source: BALDWIN-LIMA-HAMILTON CORP.
Paschall Post Office, Philadelphia 42, Pa.



Company offers engineering assistance

New application of the company's Type SR-4 bonded resistance-wire strain gage in load-cell assembly controls the filling operation to a predetermined weight of several processing tanks. The load-cell unit, previously described IEN-4139-51, is located in one of three symmetrical positions under each tank to support one-third of the weight of tank and fluid in connection with two rigid supports.

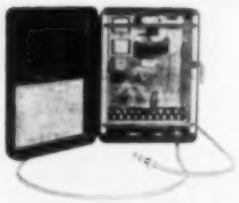
Slight variation in length of the load cell, due to compression as the tank fills, will result in length change in the strain gage which forms one leg of a Wheatstone bridge. This unbalances the bridge circuit and provides the minute voltage required for the control action.

The voltage feeds through electronic amplifying equipment to operate an indicator and also to close a solenoid valve in the fill line when predetermined weight has been reached. A high-limit alarm sounds before a tank can be over-filled. A low-limit alarm also indicates when each tank is nearly empty.

BREVITY—identify by IEN - 1232 if you write the maker

CONTROL . . Electronic equipment for safe oil or gas burner operation

Source: COMBUSTION CONTROL CORP.
75-79 Broadway, Cambridge 42, Mass.



Ask for Bulletin CP-511

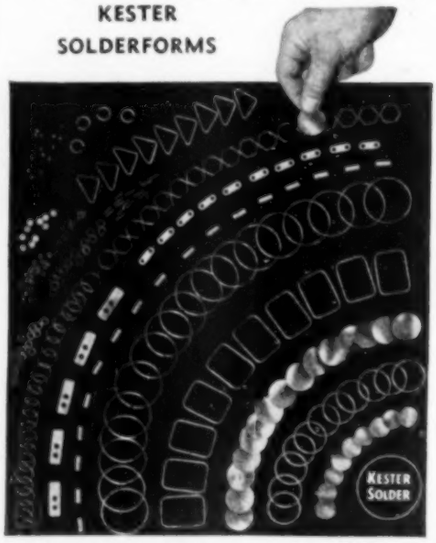
System FP-4 is a new assembly of the company's Firetron photo-conductive cell at the end of a length of flexible cable to a control unit enclosed in a dust-tight steel housing. The cell is positioned in a short length of standard ½-in. pipe in a furnace wall so it can scan the flame area and actuate the control. It "sees" all types and colors of flame. It cuts off the fuel supply if the flame fails. The equipment can be wired to sound an alarm also.

Operation can be specified on 110 or 220-volt ac. Load rating of the control relay is sufficient to operate a ¾-hp. motor. Ambient temperature in which the photo-cell can operate is 250 deg. F. in standard arrangement.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 1233 if you write the maker

KESTER SOLDERFORMS



Use Kester Solderforms for flame, oven resistance and induction soldering. Write today for samples and complete information.

KESTER SOLDER COMPANY
4211 Wrightwood Ave., Chicago 39 • Newark, N. J. • Brantford, Canada

BREVITY—identify by IEN - 1234 if you write the maker

"I'll Keep Things Moving For You!—The Boys all like my easy rolling style"

says the Nutting Trucker

A Great Variety of Standard Types

Save lost time, eliminate bottlenecks and wasted motions—increase production capacity by stream-lining handling of material with the type of Nutting Trucks suited to your work. For quicker delivery a great variety of standard types are available—bar handle, stake, platform, 2-wheel, box, rack, shelf and many others. Also rubber tired wheels and casters of all sizes for any truck.

Look in your classified phone directory for your local Nutting representative. If not listed write us stating kind of trucks you need.

Write for Bulletin 52-G

Our 61st Year

NUTTING TRUCK AND CASTER COMPANY
2012 DIVISION STREET, FARIBAULT, MINNESOTA

BREVITY—identify by IEN - 1235 if you write the maker

Cut Sheet Metal

five times faster than hand snips

Stanley Unishear

No. U216 Unishear will cut through the center of a 16 gauge steel sheet at 20 feet per minute. It will trim 14 gauge steel at the same rate of speed.

Safer and easier to use . . . and five times faster than hand snips, Stanley Unishear puts your sheet metal work on a profitable, time-saving basis. Unishear is self-feeding, operator just guides it. Cuts straight lines, curves, tricky angles and notches with hair-line accuracy — leaves a smooth, finished edge along the entire cut.

Practical tool for cutting iron, copper, aluminum, tin, leather, fiber, wire, linoleum . . . almost anything in sheet form. Saves time, material and tempers on hundreds of everyday maintenance jobs . . . cutting patterns, new products, mock-ups, machine guards (illustrated), shelving and many others.

Available in ten models for sheet metal up to 6 gauge. Ask your distributor for a demonstration, or write for information to: Stanley Electric Tools, 414 Myrtle Street, New Britain, Connecticut.

STANLEY
Reg. U.S. Pat. Off.

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

▼ BREVITY—Identify by IEN - 1237 If you write the maker ▼

It helps Gunners to "Bear On Target"

Added Evidence shot

Everyone Can Count on

VEEDER-ROOT

This is a 360-degree bearing counter . . . equipped with high-speed Geneva transfer and large, readily readable figures . . . which speeds the work and heightens the accuracy of gunnery. And it might well be adapted to bring the same advantages to many other operations in defense work. Now if your imagination is stirred by this suggestion, then you can count on Veeder-Root to help you add up to something that will really *count to YOUR advantage.*

VEEDER-ROOT INCORPORATED
HARTFORD 2, CONN.

▼ BREVITY—Identify by IEN - 1238 If you write the maker ▼

LIGHT for labor-saving . . .
STRONG for safety!

One man can carry the largest size!

Step ladder weighs much less than wood ladder. Five sizes—3' to 10'.

Single ladder with 1¼" x 1" half-round rungs. Nine sizes. 4' to 20'

Figure your savings in man hours . . . and reduced accident hazards. Magnesium ladders weigh less than wood. This means easy handling. Designed for *lasting* service.

Single ladders are available in nine sizes—4' to 20' . . . Extension ladders in sizes from 16' to 40'.

Both types are made with semi-channeled side rails, and equipped with rubber grip safety ladder feet.

Extension ladder with automatic spring type locks.

See how others save time and money with magnesium ladders; write for Bulletin L-70.

Ladders and Scaffolds for Any Purpose • Any Place • Any Time

for Greater Safety...Efficiency...Economy

THE PATENT SCAFFOLDING CO., Inc.

38-21 12th Street, Dept. IEN, Long Island City 1, New York

West Coast Plant: 6931 Stanford Ave., Los Angeles, Calif.

See Your Classified Telephone Directory for Nearest Office

▼ BREVITY—Identify by IEN - 1240 If you write the maker ▼

NUMBERING . . Wheel type stamp for original and several carbon copies

Source: WM. A. FORCE & CO.
64 White St., 4th Floor, New York 13, N. Y.

Clear carbon impressions

Carbon paper forms mount against a locating finger on the chromium-plated steel base of this new numbering machine. The operator then depresses the heavy steel handle to print on the original and to carry the impression through the copies for duplicate marking. The metal base is chromium plated. The locating gage can be positioned adjustably. The numbering machine itself is in hinged assembly so it can be lifted clear of the work.

▼ BREVITY—Identify by IEN - 1241 If you write the maker ▼

FIRST AID . . Emergency shower for worker exposed to dangerous fluid

Source: LOGAN EMERGENCY SHOWERS INC.
P. O. Box 111-A, Glendale, Calif.

Detailed in Bulletin 30

Three types employing varying numbers of spray heads are included in a new line of emergency showers. The heads are assembled in tubular frames in connection with a swing gate, chain or rod that will instantly turn on water pressure upon contact. The showers are designed for installation indoors or outside, in locations where a worker may become contaminated so he can quickly run or be taken to the shower and the contamination washed off.

▼ BREVITY—Identify by IEN - 1242 If you write the maker ▼

METAL RINGS . . Formed steel with lock joint for press fit assembly

Source: WENTHE-DAVIDSON ENGINEERING CO.
1457 N. 31st St., Dept. IEN, Milwaukee 8, Wis.

Line of locking fingers

Dimension accuracy and light weight characterize the company's recently improved design of steel ring with pressed-lock joint. The rings were developed primarily for use by electric motor manufacturers. They can be supplied on tolerances within 0.005 in. on mean inside diameter. Normally an allowance of $\frac{1}{16}$ in. is made on each end for machining so a ring to finish 6 in. in length would be supplied measuring 6⅛ inches. Sizes range from 4 to 12 in. in diameter and to 12 in. in length. Thickness is to specification.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1243 If you write the maker ▼

Here's a sight for Sore Eyes!

. . . for better Eye Face and Forehead Protection!

McDonald FACE SHIELD

Any worker whose daily tasks expose him to flying sparks, molten metal or fragments, will welcome this transparent McDonald Face Shield. Fog-resistant and sturdy, it allows maximum vision with maximum protection against hazards. Flexible, adjustable headband assures comfort. It's so light a worker doesn't know he's wearing it! All parts are replaceable.

Send for bulletin and prices, today!

B. F. McDONALD CO.
Manufacturers & Distributors of Industrial Safety Equipment
5721 WEST 96TH ST., LOS ANGELES 45, CALIF.
Other Offices in San Francisco & Houston

▼ BREVITY—Identify by IEN - 1244 If you write the maker ▼

INDUSTRIAL INKS To Mark Anything!

Production engineers use "Clear Print" Wood Block Stamp Pads and Opaque Inks for the best clear, sharp, fast drying impressions. To cut down on lost shipments and rejected assemblies because of poor identification, use "Clear Print" for shipping room direction stamps and parts numbers. You are assured of permanently legible markings. Many bright visible colors available.

- For marking on non-porous materials such as:
- WOOD, METAL, GLASS, PLASTIC, RUBBER, PAPER AND MANY OTHERS.

PHILLIPS PROCESS CO., INC.
175 MILL ST., ROCHESTER, N.Y.
J. A. PHILLIPS, President

▼ BREVITY—Identify by IEN - 1245 If you write the maker ▼

When thinking of electrical protection keep in mind that (with rare exceptions on Commercial and Industrial Installations) . . .

Ordinary Fuses and Breakers DO NOT PROTECT EXCEPT AGAINST SHORT CIRCUITS.

But FUSETRON FUSES

FUSETRON dual-element FUSES—

1 Protect against short-circuits.*
2 Protect against needless blows caused by harmless overloads.
3 Protect against needless blows caused by excessive heating — lesser resistance results in much cooler operation.
4 Provide thermal protection — for panels and switches against damage from heating due to poor contact.
5 Protect motors against burnout from overloading.
6 Protect motors against burnout due to single phasing.
7 Give DOUBLE burnout protection to large motors — without extra cost.
8 Make protection of small motors simple and inexpensive.
9 Protect against waste of space and money — permit use of proper size switches and panels.
10 Protect coils, transformers and solenoids against burnout.

*Fusetron Fuses have high interrupting capacity as shown by tests of the Electrical Testing Laboratories of New York City.

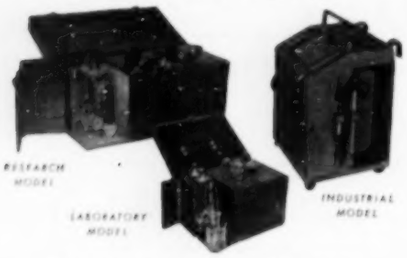
DON'T RISK LOSSES!
One needless shutdown, one lost motor, one destroyed panel or switch, one burned out solenoid . . . may be more costly to you than replacing every ordinary fuse with a Fusetron dual-element fuse.

Mail the Coupon Now!

Bussmann Mfg. Co., University at Jefferson, St. Louis 7, Mo. (Division of McGraw Electric Co.)
Please send me complete facts about FUSETRON dual-element Fuses.

Name _____ Title _____
Company _____
Address _____
City & Zone _____ State _____ 152

BREVITY—Identify by IEN - 1247 if you write the maker



Cambridge pH Meters

The three portable models illustrated above incorporate new and important advantages. A.C. line operation eliminates battery nuisance. Laboratory and Research models use electron-ray tube for precise null-point indication. Industrial model is direct-reading, continuous-indicating; ruggedly built for plant use.

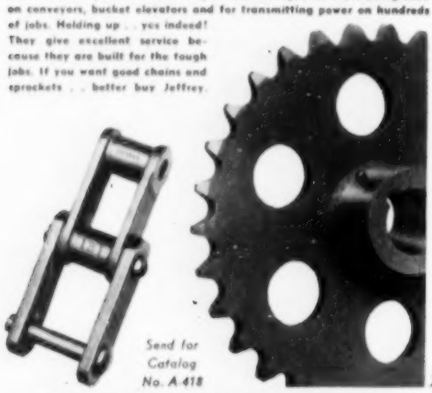
Accuracy: Research .02 pH. Laboratory .05 pH. Industrial .10 pH. Cambridge pH equipment also includes single- and multi-point indicators and recorders. Send for Bulletin 910-MR.

CAMBRIDGE INSTRUMENT COMPANY, INC.
8710 GRAND CENTRAL TERMINAL, NEW YORK 17, N. Y.
Pioneer Manufacturers of
PRECISION INSTRUMENTS

BREVITY—Identify by IEN - 1248 if you write the maker

GENERAL PURPOSE CHAINS AND SPROCKETS

And we mean just that . . Jeffrey chains and sprockets are being used on conveyors, bucket elevators and for transmitting power on hundreds of jobs. Holding up . . yes indeed! They give excellent service because they are built for the tough jobs. If you want good chains and sprockets . . better buy Jeffrey.



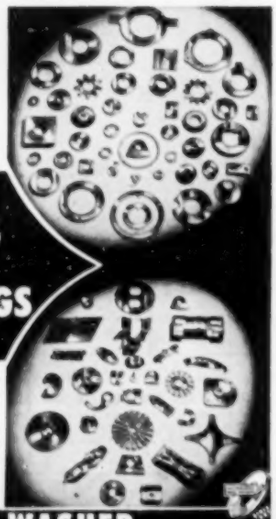
Send for Catalog No. A-418

JEFFREY
ESTABLISHED 1877
THE JEFFREY MANUFACTURING CO.
914 Fourth St., Columbus 16, Ohio

BREVITY—Identify by IEN - 1249 if you write the maker

Serving INDUSTRY

SINCE 1887



WASHERS and STAMPINGS

Standard and Special Washers, of every description, any material, any finish, utilizing more than 22,000 Sets of Dies.

Let us Quote on Your Needs.

WROUGHT WASHER MFG. CO.
THE WORLD'S LARGEST PRODUCER OF WASHERS
2207 SOUTH BAY STREET • MILWAUKEE 7, WISCONSIN

BREVITY—Identify by IEN - 1250 if you write the maker

BRUSH . . Wheel design employs wire bristles set in rubber

Source: HEWITT-ROBINS INC.
238-42 Kensington Ave., Buffalo 5, N. Y.

Trade named Rubberlokt

The wire bristles in this new brush are anchored in a flanged rubber core forming a ring at the base of the bristles with a section outline to fit on steel adapter plates, one on each side. The wheel rides on these plates and is clamped in position on a fixed or portable spindle in replaceable assembly.

Four diameters are between 4 and 10 in. in a wide-face design with nominal face width at 1 to 1¾ in. in various gages of wire made of carbon steel. Three diameters, in a narrow-face design, are 4, 6 and 8 in. with nominal face width at ½ to ¾ inches. This latter design is available with bristles made of carbon steel, high-strength wire or stainless steel wire.

Three sizes of adapter are available, one for wide and narrow-face wheels measuring 4 in. in diameter, one for narrow-face 6 and 8-in. wheels and one for wide-face 6, 8 and 10-in. wheels.

The rubber locks the wire flexibly, eliminates any definite point of bending or flexing in order to minimize breakage. It cushions the brushing action, prevents fraying and breakage, permits use of the wheel as long as any wire projects.

BREVITY—Identify by IEN - 1251 if you write the maker

REFRIGERATING . . Sub-zero machine to shrink, stabilize, test and store

Source: REVCO INC.
51 Crescent St., Deerfield, Mich.

Note inside "sub-lid"

Work space measures 23 by 9 by 12½ in. in a new Model SZH15. It measures 47 by 15 by 16 in. in a larger Model, SZH65. Both units are made of steel employing Fiberglas bats between the welded interior and exterior. Outside dimensions are 41 by 27 by 42½ in. in one case and 59 by 27 by 42½ in. in the other.

Temperature can be set to any point maximum at 90 deg. below zero for the smaller unit and to 80 deg. below zero for the larger one with room temperature at about 70 deg. F. An additional five points of temperature can be removed by continuous operation. Each unit is served by two Tecumseh hermetically-sealed compressors operating in a two-stage installation. The first is driven by a ¾-hp. motor. The second by a ¼-hp. unit. Operation is on 110-volt 60-cycle single-phase ac. The condenser is air cooled. The refrigerating equipment is factory lubricated and sealed for life to require a minimum of maintenance.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1252 if you write the maker

Is Space an Important Factor?

Then Use This Distinguished Line of Close-Coupled Pumps

These GMC Pumps are ideal for a multitude of jobs. Smooth and efficient whether vertical, horizontal, up-side-down or any inclination. Low first cost, low power and maintenance costs. Top quality "by Aurora."

AURORA Always PUMPS
AURORA PUMP COMPANY
52 Loucks Street, Aurora, Ill.

BREVITY—Identify by IEN - 1253 if you write the maker

Drill Hardened Steels without Annealing—

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon-high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It—With "HARDSTEEL"

BLACK DRILL COMPANY, Inc.
Division Black Industries
1378 East 222nd St. • Cleveland 17, Ohio

Also makers of— BLACK DRILLING UNITS—AUTOMATIC, SELF-CONTAINED—FOR COST-CUTTING PRODUCTION ON ALL MATERIALS *Write for information*

BREVITY—Identify by IEN - 1254 if you write the maker

AMERICAN ELECTRIC *Model 275* MOTOR ALTERNATOR

1000 TO 1800 WATTS
400 CYCLE POWER SUPPLY
IN LESS THAN A 2 FOOT PACKAGE!

Small, light, compact, equally satisfactory on permanent or portable installations. Low speed—quiet operation. Meets power supply requirements for AN-E-19 equipment. Multiple units efficiently replace one single, large-capacity alternator . . . Save space, cost far less, protect against breakdowns!

NEW PRINCIPLE uses no moving coils, brushes, springs etc. . . . *It's as completely wear-free as its ball-bearings!*

Capacities up to 1000 Watts single phase or up to 1800 Watts three phase. Single or 3 phase common-shaft motor drive. Larger capacities available.

WRITE FOR DETAILS!

AMERICAN ELECTRIC MOTORS
TRADE MARK
4811 Telegraph Road, Los Angeles 22, California

BREVITY—Identify by IEN - 1255 if you write the maker

IN ROTARY PUMPS
VIKING Has the Answer to Your Needs

LOW or HIGH CAPACITY

LIGHT or HEAVY LIQUIDS

HOT or COLD FLUIDS

CORROSIVE MATERIALS

ODD or STANDARD Drive Arrangements

PECULIAR Mounting Conditions

Whatever your pumping needs may be, start solving them today by requesting Folder 5257.

Viking PUMP COMPANY
CEDAR FALLS, IOWA

BREVITY—Identify by IEN - 1256 if you write the maker

32 Pages of Helpful Information on Dust Recovery Systems

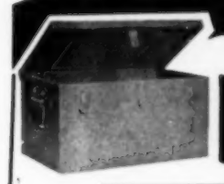
If you are now using dust or fly ash recovery equipment in your plant—or are planning installation of such equipment now or later—you will find this new Multiclone booklet full of helpful information. Illustrations and diagrams outline basic principles of dust recovery and how to utilize them for maximum efficiency . . . how to simplify your installations . . . how to conserve valuable plant space . . . how to get high recovery over a wide range of particle sizes, etc. **A copy of this booklet should be in your files for reference and assistance in dust recovery applications. A free copy will gladly be sent you on request. Write today while supplies are adequate.**

WESTERN Precipitation CORPORATION

Main Office: 1031 WEST MINTH STREET, LOS ANGELES 15, CALIFORNIA
CHRYSLER BLDG., NEW YORK 17 • 1 LaSALLE ST. BLDG., 1 N. LaSALLE ST., CHICAGO 2 • HOBART BUILDING, SAN FRANCISCO 4, CALIFORNIA
PRECIPITATION CO. OF CANADA, LTD., DOMINION SQ. BLDG., MONTREAL

BREVITY—Identify by IEN - 1257 if you write the maker

GOV'T. CONTRACTORS



SPARE PARTS BOXES

CONFORMING TO
Federal Specifications
Military Specifications
Air Force—Navy
Aeronautical
Specifications
Navy Department
Specifications

WRITE FOR FURTHER INFORMATION

Muckle MANUFACTURING CO.
OWATONNA, 33 MINN.

BREVITY—Identify by IEN - 1258 if you write the maker

When your concrete floors develop cracks, ruts, shallow holes or rough spots, repair them with Smooth-On No. 7B Quick Floor Patch Cement. It comes in powder form ready to mix with water. Simply apply Smooth-On No. 7B as you would plaster. Smooth-On No. 7B expands slightly as it hardens, insuring a secure, tight fit. You get an iron-hard surface that can take the punishment of heavy traffic. Order Smooth-On No. 7B Quick Floor Patch Cement in 1, 5, 20, or 100 lb. size.

FREE Folder and Repair Handbook

Write for your copy of the illustrated Smooth-On Quick Patch folder and the famous Smooth-On Repair Handbook. Pocket size, 40 pages, 170 simple illustrations. Shows how to make many time-saving, money-saving repairs.

SMOOTH-ON MFG. CO., Dept. 1
570 Communipaw Ave., Jersey City 4, N. J. SO-049

Do it with SMOOTH-ON
QUICK FLOOR PATCH CEMENT

BREVITY—Identify by IEN - 1259 if you write the maker

CIRCUIT BREAKER . . Panel assembly provides 12, 20, 28 or 40 circuits

Source: SQUARE D CO.
6058-62 Rivard St., Detroit 11, Mich.

Breakers clamp in place

Four assemblies have been added to the company's Panelette line to provide either lugs or circuit-breaker mains for 2 to 40 circuits on ac. lighting and appliance branch application. It takes the thermal-magnetic Plug-in circuit breaker, with rating at 15, 20, 30, 40 or 50 amp., mounted on cylindrical bus bars.

The breaker units are interchangeable with those of the MO-12 and MO-20 load centers. New packaging permits the use of one carton for the box and bus assembly and for the necessary breakers and trim after the latter have been selected. The assemblies are available for single-phase, three-wire, or three-phase four-wire ac. circuits.

BREVITY—Identify by IEN - 1260 if you write the maker

SPRINGS . . Compression units in stock for use on dies and machines

Source: PRODUCTO MACHINE CO.
988-92 Housatonic Ave., Bridgeport 1, Conn.

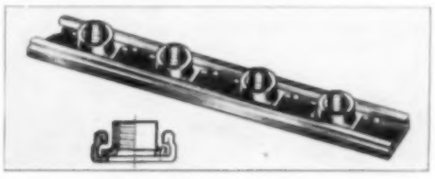
Stock bulletin upon request

Free lengths range from 1⅛ to 12 in. and maximum pressure from 400 to 2,000 lb. in a new stock line of compression springs employing oval spring-steel wire designed for 30 per cent deflection. The smallest unit applies in a bore measuring ¾ in. in diameter. The largest one clears 2 inches.

BREVITY—Identify by IEN - 1261 if you write the maker

FASTENING . . Lock nut assembly with nuts held in an aluminum channel

Source: KAYNAR MFG. CO.
818 E. 16th St., Dept. C-95, Los Angeles 21, Calif.



Sizes and spacing as specified

Sizes range from 8/32 to ¼ in. 28 in this new assembly of the company's Kaylock lock nuts and aluminum-alloy channel. The channel is pierced to locate the nuts at specified center distances. The nuts themselves are the company's standard design with elliptical heat-treated body that grips a bolt or screw when it is turned into position.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1262 if you write the maker

PAGE FENCE -Since 1883

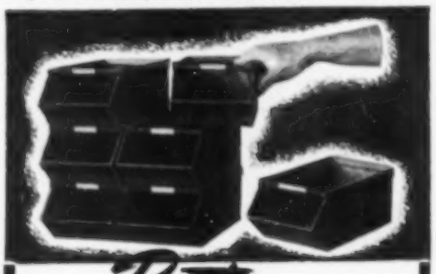
• AMERICA'S FIRST WIRE FENCE •

Sabotage is a danger which calls for vigilance day and night. Property line vigilance is the job for Page Chain Link Fence, now as it has been for more than 60 years. Consult the nearby, long-experienced Page Fence engineering and erecting firm, which will submit cost estimates without obligation. Name and address will be sent with illustrated fence data on request.

Write to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, New York or San Francisco.

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

BREVITY—Identify by IEN - 1263 if you write the maker



Parts . . .

★ Where You Want Them . . .
★ When You Want Them

You'll save time, space and labor handling parts and material when you use these patented STACKBINS. STACKBINS keep parts instantly accessible—eliminate waste hand motions—stack compactly to form units of exactly the right shape and capacity—make order filling or assembly work faster, easier, more efficient. Heavy steel, all-welded construction. Sizes from 3½" x 6" x 3¼" to 15" x 24" x 11". Prices from $.65 to $2.75.

Manufactured and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa

Write Stackbin Corp., 1077 Main Street, Pawtucket, R. I.

STACKBIN SYSTEM
"Stacked and Still Accessible"

BREVITY—Identify by IEN - 1264 if you write the maker

No other line is so complete

Fit your pumping need exactly by selecting from the Worthington line of CN-DN standard centrifugal pumps—10,000 combinations in all!

- *Capacities* from 10 to 1800 gpm
- *Heads* up to 535 ft.
- *Casings* in 50 sizes
- *Frame-mounted designs* in 200 combinations
- *Packing*: conventional or mechanical seal
- *Drive*: "any-drive" (frame-mounted model CN has shaft extension to take any drive) or built-in motor (Monobloc DN has motor and pump perfectly balanced as a single unit on a common shaft)

Worthington Pump and Machinery Corporation, Pump and Compressor Merchandising Division, Harrison, N. J.

See Your Worthington Distributor

WORTHINGTON

PC.1.4 THE GOOD RIGHT HAND OF INDUSTRY

BREVITY—Identify by IEN - 1265 if you write the maker

Can Straight-Chrome Stainless help you beat the nickel shortage?

Courtesy — Mercury Conveyor, Inc.

If you're seeking to beat the nickel shortage — this all-stainless food conveyor carries a useful suggestion. The manufacturer had long used nickel-bearing stainless steel to make a sanitary unit.

Recent nickel controls, however, curtailed production—and made substitute materials necessary. But there were shop and fabricating practices to consider—in addition to appearance, sanitation and service life of the final product.

Frasse Technical Service was called in — and after study, Frasse engineers recommended Type 430, a straight-chrome stainless. It met all requirements—was freely available from Frasse warehouse stock.

Why not look into the possibilities of this grade? Send for Frasse Engineering Memorandum #8 describing properties and fabricating procedures of Type 430—it's free.

Peter A. FRASSE and Co., Inc.
17 Grand Street, New York 13, N. Y.
Lyndhurst • Philadelphia • Buffalo • Syracuse

Call FRASSE 1st for Stainless Steels

Bars • Sheets • Strip • Plate
Pipe • Tube • Wire • Valves • Fittings

BREVITY—Identify by IEN - 1266 If you write the maker

JOHNSON
Self-Aligning
BEARINGS REDUCE ASSEMBLY COSTS

Ledaloyl

Johnson Ledaloyl Bearings in numerous self-aligning styles are designed to slip into place and adjust themselves to shaft position. They require no machining, no fitting. They are produced by powder metallurgy and are self-lubricating. Catalog L-5 shows designs of items and lists sizes available from stock.

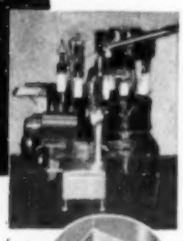
Write for your copy today.

SLEEVE BEARING HEADQUARTERS *Since 1901*

Johnson Bronze
476 SOUTH MILL STREET NEW CASTLE, PA.

BREVITY—Identify by IEN - 1267 If you write the maker

how to FEED MATERIALS ECONOMICALLY: use GAST rotary AIR PUMPS!



This unit, for example, seals milk bottles with Alumo SEAL aluminum caps . . .

PROBLEM: Remove caps one-at-a-time from magazine, and hold ready to drop into feed chute.

SOLUTION: Suction cup with 20" to 22" vacuum, produced by positive-action Gast Rotary Air Pump.

RESULT: Dependable, low-cost operation from portable Gast unit in housing on floor.

Just for a moment, consider how you could apply low vacuum for feeding sheet materials and small parts of paper, fibre, plastic or light metal.

The possibilities are enormous for extra speed — extra savings — extra safety. And Gast Rotaries are giving excellent service on scores of common — and unusual — applications.

When you have problems that might be solved with low vacuum or pressure, write Gast. "Air may be your Answer!"

See our CATALOG in SWEET'S FILE & PRODUCT REVIEWS

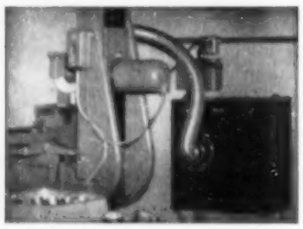
Gast Application Ideas Booklet — showing 26 design problems solved — sent upon request.

Original Equipment Manufacturers for Over 25 Years

GAST ROTARY AIR MOTORS · COMPRESSORS · VACUUM PUMPS
GAST MANUFACTURING CORP., 119 Gidley St., Benton Harbor, Mich.

BREVITY—Identify by IEN - 1268 If you write the maker

STOP DUSTS



Instantly *with* DUSTKOP

Available from stock of 22 standard models
500 cfm to 10,000 cfm

For: Surface Grinders, Tool and Cutter Grinders; Polishers and Buffers; Abrasive Belts and Discs; Woodworking and Plastic Industry Equipment . . . DUSTKOPS collect almost all kinds of industrial dusts.

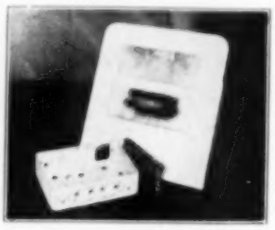
Ask for Catalog 605-2. Describes dust problem for recommendation by return mail — no obligation.

AGET-DETROIT CO.
101 Main Street Ann Arbor, Michigan

BREVITY—Identify by IEN - 1269 If you write the maker

MARKING . . Metal stencil to spray paint identifying markings

Source: JAS. H. MATTHEWS & CO.
3948 Forbes St., Pittsburgh 13, Pa.



Accurate, clear and clean

Codes, symbols and any other markings that may be required can be spray painted accurately in place on equipment such as electronic chasses, electrical and mechanical assemblies and sub-assemblies by application of the company's new Wow metal stencils and positioning frames. A typical unit shown in the illustration includes a mounting frame for two of the stencils with positioning lugs at the rear to hold the work piece so the operator need not touch any wet surface. Each stencil, or set of stencils, and the required accessory parts are designed and manufactured by the company for specified use and then are tested prior to delivery.

BREVITY—Identify by IEN - 1270 If you write the maker

LUBRICATING . . Dry powder, molybdenum disulphide, forms a film

Source: MOLY-LUBE PRODUCTS
307 E. Shore Road, Great Neck, N. Y.

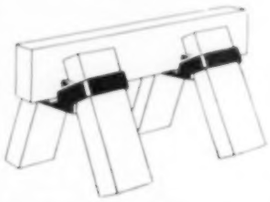
Also adds to oil or grease

New packaging for the company's dry lubricant employs a Plax polyethylene bottle equipped with a dispenser top. A user opens the top and squeezes the bottle to spray the powder where it is needed. The bottle itself is unbreakable. The powder acts to prevent galling and seizing between rubbing surfaces. It is particularly suited to run in new machines and for use in connection with deep drawing and interference fit assemblies. It remains stable between minus 125 and plus 600 deg. F. It is a good dielectric at ordinary temperature.

BREVITY—Identify by IEN - 1271 If you write the maker

SCAFFOLD . . Metal brackets to quickly assemble a saw horse

Source: GRAND HAVEN STAMPED PRODUCTS CO.
51 Grand St., Grand Haven, Mich.



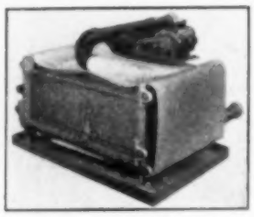
Jiffy trade names a new formed-steel bracket to employ 2 by 4-in. wood pieces for legs and 2 by 4, 6, 8, 10 or 12 in. for the crossbar. The parts slide together, can be assembled or taken apart quickly. No fitting is required. Brackets are zinc plated and are packed one pair to a carton. List price is $1.50 per set.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1272 If you write the maker

A PAID NEWS ADVERTISEMENT BY HONAN-CRANE CORP.

COOLANT FILTER . . . Automatic Self-Cleaning Unit for Individual Machine Tools or Small Central Coolant Systems



Compact new Houdaille Web-Type Filter, requiring as little as 47" x 42" floor space, features a continuous, self-cleaning cloth filter web which removes abrasives and all types of contamination from machine tool coolants.

Serves individual machine tools or small central coolant systems; ideal for all types of grinders, broaches, drilling, lapping, milling machines, etc., wherever mineral or soluble oil coolant is used.

Contaminated coolant from machine tools flows over surface of rotating filter web. Liquid passes through web into clean-coolant tank and back to machine sump . . . leaving chips, abrasives and other solids to be carried off by web and deposited into chip pan. Special beaters shake particles from web, keeping it clean and serviceable indefinitely. By utilizing full area of filter bed this new design easily handles a large volume of coolant yet the unit itself is compact and requires minimum floor space.

Unit is available in capacities 50 G. P. M. to 400 G. P. M. Write for special bulletin giving details of operation, specifications, etc.

HONAN-CRANE CORPORATION
subsidiary of HOUDAILLE-HERSHEY CORP.
802 Wabash Avenue, Lebanon, Indiana

BREVITY—Identify by IEN - 1273 If you write the maker

Garlock GASKET CUTTER

CUTS ROUND GASKETS QUICKLY, EASILY, ACCURATELY FROM ASBESTOS, RUBBER, FIBRE OR CORK SHEETS

If you cut your own gaskets, either as a regular practice or only in case of an emergency, you need a Garlock Gasket Cutter in your tool cabinet. This sturdy, high-grade tool is precision made from the best materials. Cuts gaskets of any size from 1¼" to 19⅝" O. D. For larger gaskets a longer steel rod may be used. The spear-shaped knife cuts gaskets with clean, sharp edges. Extra knife, extra centering point and samples of Garlock gasketing materials are included in the kit.

Write for folder!

THE GARLOCK PACKING COMPANY
PALMYRA, NEW YORK
In Canada: The Garlock Packing Company of Canada, Ltd., Toronto, Ont.

GARLOCK

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Send for this Manual of . . .

MEYERCORD DECAL NAMEPLATES

FREE!

Most useful nameplate manual ever offered! 20 full-color pages show hundreds of problem solving uses of Meyercord Decals on glass, metal, wood, china, plastic, rubber, leather—curved, flat or flexible surfaces. Fast, easy application.

WRITE FOR YOUR FREE COPY BUSINESS LETTERHEADS, PLEASE, DEPT. 2-2

The MEYERCORD Co.
World's Largest Decal Manufacturer
5323 W. LAKE ST. CHICAGO 44, ILL.

BREVITY—Identify by IEN - 1275 If you write the maker

Automatically **LIDS MIXED SIZE BOXES**

fmc RANDOM SIZE BOX LIDDER

up to 600 per hour . . .

One operator can lid up to 600 boxes of mixed sizes per hour on the *fmc* Random Size Box Lidder. As the boxes are conveyed into the machine, it automatically adjusts the nailing chucks to the proper size, drives the required number of nails, and discharges the lidded box on to an outgoing conveyor, taking the place of several nailing machines which would otherwise be required to handle the same volume and variety of production.

SEND FOR ILLUSTRATED BULLETIN

FOOD MACHINERY & CHEMICAL CORPORATION
Packing Equipment Division, Dept. D
Riverside, California
NM-20 C

▼ BREVITY—identify by IEN - 1276 if you write the maker ▼

TOOL CRIB CONTROL

New illustrated bulletin presents step-by-step procedure used profitably in hundreds of plants.

How it works to—

- Record each employee's tools or gages, preventing theft and loss;
- Recover idle tools;
- Cut crib inventories;
- Reduce tool breakage;
- Locate each tool, loaned or in crib;
- Eliminate delays, saving man and machine time;
- Stop arguments and otherwise speed service;
- With no increase in crib personnel—

All described in Folder A-510 IEN

Complete control of your tools will save headaches in the months ahead.

Write for your copy today to:

THE McCASKEY REGISTER COMPANY • ALLIANCE, OHIO

McCASKEY INDUSTRIAL CONTROLS

PRODUCTION • TOOLS • INVENTORY • COSTS • MAINTENANCE

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MORE SOLD THAN ANY OTHERS

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OF USES AND SPECIFICATIONS

GENERAL
Industrial Pneumatic Tires

..SAVE TIME·LABOR·MONEY

Protect equipment and floors • Reduce Breakage

- ★ *Wide Base Wheel*
- ★ *More Air Volume*
- ★ *More Stability*
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- ★ *Longer Miles in Hi-Speed Service*

Available separately or in assemblies of Tires, Tubes and Wheels. Size O. D. 8" to 27"—200 to 4000 lbs. cap. for low and high speeds.

Rigid **CASTER FORKS** *Swivel*

Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

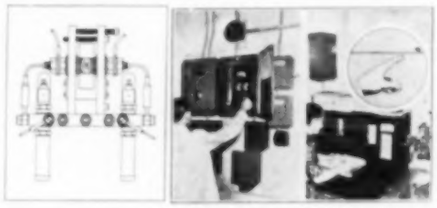
Send for Catalog • Dept. 3

THE GENERAL TIRE & RUBBER CO. AKRON, OHIO

▼ BREVITY—identify by IEN - 1279 if you write the maker ▼

SIGNALING . . Air electric alarm operates on temperature rate of rise

Source: WALTER KIDDE & CO.
673-77 Main St., Belleville 9, N. J.



Approved by Underwriters' Laboratories

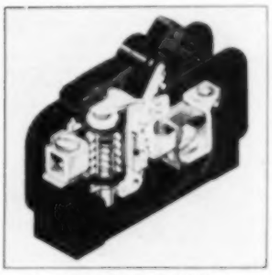
A copper tube, forming a loop not longer than 1,000 ft., connects at its two ends to a diaphragm-equipped switch mechanism as the actuating assembly in this new fire detecting and signaling equipment. One or more loops can be installed in areas to be protected with the tubing runs not more than 30 ft. apart on plain ceilings or in individual spaces between beams. Each loop terminates in its own switch. The switches connect to central alarm equipment designed to indicate the individual loop through which fire is being signaled.

Increasing temperature in a protected area causes the air in the local tube circuit to expand and travel through breathers that release it to the outside atmosphere at a definite rate. The breathers, however, cannot pass the rate of rise in pressure such as would be caused by heat from a fire. This excess pressure then travels on through insulator tubes that lead to opposing diaphragms. They act to close a circuit through platinum-faced contact points and sound the alarm. Compensator cylinders absorb momentary surges to prevent false alarm.

▼ BREVITY—identify by IEN - 1280 if you write the maker ▼

CIRCUIT BREAKER . . Panel board unit provides time delay magnetic tripping

Source: HEINEMANN ELECTRIC CO.
100 Plum St., Trenton 2, N. J.



Ask for Bulletin 3101

New design of the company's Magnette panel-board circuit breaker is available in single-pole assembly with rating from 15 to 60 amp. on 110-volt ac. It also is made in a two-pole assembly for 110/220-volt ac. on a rating of 15 to 35 amperes. Tripping is effected by the current itself, with a time delay on simple overload, instant trip at 10 times rated or a short.

Arcing heat causes pressure in a quenching well which immediately extinguishes the arc and guards the contacts against pitting. Principal applications are in panel boards to handle lighting and appliance circuits and as a built-in combination start-stop switch and overload protection for a variety of electrical equipment.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—identify by IEN - 1281 if you write the maker ▼

FOR BETTER FLOAT PERFORMANCE *at Lower Cost!* **USE CHICAGO STAINLESS STEEL**

FLOATS

THE real cost of float performance can only be measured by the original cost against the length of trouble-free service given. That's why Chicago chromium-nickel stainless steel floats are your best bet from both a cost and a performance standpoint. They stay in service longer, eliminating common float failures such as corrosion, collapsing, lack of buoyancy and high temperature failure. When you install stainless floats you can forget them. They'll give many years of low-cost, trouble-free service. Check with Chicago Float for the best in stainless steel floats.

SEND FOR COMPLETE CATALOG

CHICAGO FLOAT WORKS, INC.

2326 So. Western Avenue Chicago 8, Illinois

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HYDRAULIC DESIGN MADE EASY!

This Hannifin catalog gives complete engineering and design data on 11 Hydraulic cylinder mounting types, 1" to 8" bore, with or without cushions—styled to meet every requirement. Interchangeability of collars and caps makes possible unlimited combinations. Send for your copy of this valuable reference.

WRITE FOR BULLETIN 110.

HANNIFIN

Hannifin Corporation • 1107 S. Kilbourn Ave. • Chicago 24, Illinois

▼ BREVITY—identify by IEN - 1283 if you write the maker ▼

Man alive! This Hydraulic Jack DOES EVERYTHING but walk and talk!

It's *no ordinary* hydraulic jack . . . this is a *"Porta-Power"*! Its compact, *remotely-controlled* ram is threaded for fast assembly with ingenious attachments . . . to push, pull, clamp, press, bend or spread . . . over any span, any angle!

Every maintenance crew needs this

***Porta-Power* 831 KIT**

Replace slow, dangerous, damaging maintenance methods! The 10-ton hydraulic unit and attachments save up to 9 man-hours moving a single machine. Pull pulleys; push out pins, bushings, bearings; bend rail; clamp—do "1001" other tough jobs!

Buy from leading supply houses. Write for "Porta-Power" catalog.

BLACKHAWK

BLACKHAWK MFG. CO., Dept. P-5921, Milwaukee 1, Wis.

▼ BREVITY—identify by IEN - 1284 if you write the maker ▼

PYLE-NATIONAL INDUSTRIAL LIGHTING FIXTURES

for safety IN HAZARDOUS LOCATIONS

EXPLOSION PROOF

Pyle-National LE Series: Class I, Groups C and D

For use in locations where highly flammable materials are manufactured or handled.

Rugged, flame-tight cast aluminum alloy housings render internal explosions harmless, and insure safe operating temperatures. Threaded construction permits easy access to interior for wiring and lamp replacement. Available in many types and sizes.

DUST-TIGHT

Pyle-National DE Series: Class II, Groups, E, F and G

For use in locations where flammable dusts are present in quantity.

Strong, one-piece cast aluminum alloy housings are designed to exclude dust from the interior and to avoid accumulation of dust on the exterior surface. Available in many types and sizes.

Consult the new PYLET Catalog for complete line of explosion-proof supporting PYLETS for lighting fixture mounting.

THE PYLE-NATIONAL COMPANY

1348 NORTH KOSTNER AVENUE CHICAGO 51, ILLINOIS

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• Oil, wax, asphalt and similar products stored in large tanks are held accurately at pumping temperature with simple SARCO SELF-OPERATED TEMPERATURE REGULATORS applied to suction heaters or steam coils.

No compressed air required. Sizes ½" to 8", temperatures to 500°F.

Ask for Bulletin 603

520

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EMPIRE STATE BUILDING, NEW YORK 1, N. Y.
Represented in Principal Cities
SARCO CANADA LTD., TORONTO 5, ONTARIO

▼ BREVITY—identify by IEN - 1286 if you write the maker ▼

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Intricate mechanisms like those made by Woodward Governor Company of Rockford operate more accurately and dependably because of G.S. Fractional Horsepower Gearing. These excellent hydraulic Governors are used extensively on stationary diesel engine electric generating units. They have gained an enviable reputation for smooth trouble-free performance.

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Free new 6-page folder illustrating and describing G.S. facilities, Small Gearing and applications, together with handy charts. Will you ask for it on company stationery, please?

GEAR Specialties, Inc.
Spurs • Spirals • Helicals • Bevels • Internals • Worm Gearing • Racks • Thread Grinding
2635 WEST MEDILL AVE., CHICAGO 47, ILL.
WORLD'S LARGEST EXCLUSIVE MANUFACTURERS OF FRACTIONAL HORSEPOWER GEARING

▼ BREVITY—identify by IEN - 1288 if you write the maker ▼

CRANE . . Mobile electric unit rates 5 ton at 5½ ft. radius

Source: ELWELL-PARKER ELECTRIC CO.
4060 St. Clair Ave., Cleveland 3, Ohio

Hand or power steer

Model CZ, in the company's line of truck-mounted cranes, has been redesigned to increase stability and provide good forward visibility. The assembly includes a telescopic boom that can be extended from 12 to 19 feet. Hook height is maximum at 18 ft. when the extension is maximum. The truck carrying the boom measures about 131 in. in length by 67 in. in width. Mounting is on 22 by 10 in. solid tires or 23¾ by 8 in. cushion tires.

The truck will turn in 95-in. intersecting aisles. The boom can be rotated through an arc of 256 degrees. Outriggers are available for use when loads are to be lifted on either side.

▼ BREVITY—identify by IEN - 1289 if you write the maker ▼

WEIGHING . . Hydraulic scale suspends from crane hook, to 20 ton

Source: HYDROWAY SCALES INC.
20622-26 W. 8-Mile Road, Detroit 19, Mich.

At home anywhere

Two scales on the dial face in this new unit in the company's Hydroscale line are in kilograms and pounds so readings can be made directly in metric as well as English units under the pointer. The scale provides for tare adjustment and is available with 24 and 30-in. dials in 5, 10 and 20-ton capacities. As in the previous design, an imposed load causes a piston to displace fluid to operate the indicator.

▼ BREVITY—identify by IEN - 1290 if you write the maker ▼

MOTORS . . How large ones are built described in article in house publication

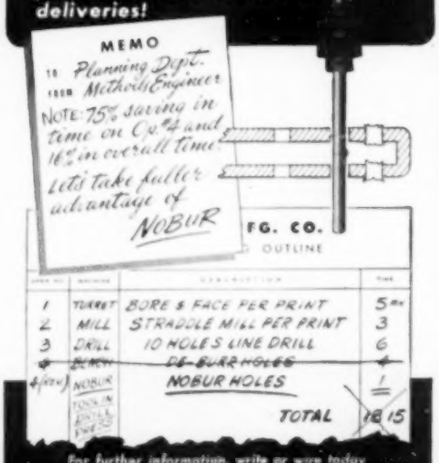
Electric Machinery Mfg. Co.
821 2nd Ave. S. E., Minneapolis 13, Minn.

Issue No. 34 of the company's "Synchronizer" contains an article on "Building Big Induction Motors." These motors, rated at 3,000 hp., are for driving centrifugal pumps on an oil pipe line. The article describes their construction from electrical and mechanical design standpoints. Pictures show construction steps. Your name will be added to the list.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—identify by IEN - 1291 if you write the maker ▼

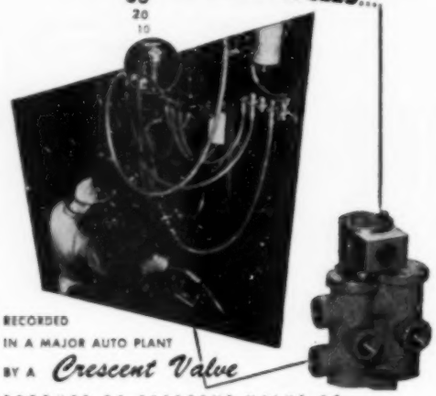
Deburring with NOBUR tool on drill press reduces production costs . . . speeds deliveries!



For further information, write or wire today
NOBUR MANUFACTURING COMPANY
712 NORTH VICTORY BLVD. • BURBANK, CALIFORNIA

▼ BREVITY—identify by IEN - 1292 if you write the maker ▼

40 MILLION CYCLES . . . and still going up!



RECORDED IN A MAJOR AUTO PLANT BY A *Crescent Valve*

PRODUCT OF CRESCENT VALVE CO.

Series 1046 four-way valves are solenoid controlled, pilot operated for use on air, water and light oils from 0 to 150 psi. They are intended for continuous duty, fast cycling (up to 600 cycles a minute) of double acting cylinders. Write for literature and prices to:

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▼ BREVITY—identify by IEN - 1293 if you write the maker ▼

here's your ANSWER to the

colored wire shortage!

E-Z CODE WIRE MARKERS simplify the assembly of wiring circuits by number or standard NEMA color code—answer problems created by a colored wire shortage. They maintain accuracy...minimize rejections...simplify inspection...and get the most from new, inexperienced employees, even when assigned to the most complicated wiring projects. E-Z Codes, with the exclusive Speed-Tab, are faster to remove from carrying card, quicker to apply *(without moistening)* and adhere permanently to wire and cable, even when pulled through conduit. They are unaffected by heat and humidity. E-Z Codes are the efficient, low-cost answer to your colored wire shortage problem.

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Los Angeles 54, Calif. Dept. IEN-2
740 Luckystone Avenue
St. Louis 22, Mo.

▼ BREVITY—identify by IEN - 1294 if you write the maker ▼

HUOT DRILL DISPENSER

No More Rummaging Through Stacks of Drills

No more running out of drills—your entire stock can be seen at a glance. Each size of drill has its own compartment with rounded bottom for easy selection. You can store dozens of small drills and several large ones in their own compartments. Built-in pricing or inventory system eliminates the need for cost sheets, and will keep a record of drills on hand. *Specifications:* 14½" long, 7¼" high, 7¼" deep. Hammerlin baked enamel finish over rugged steel. Made in three models for fractional, number or letter drills.

Write for Circular

HUOT MANUFACTURING CO.
565 No. Wheeler St., St. Paul W4, Minn.

By the makers of HUOT DRILL INDEX

▼ BREVITY—Identify by IEN - 1295 if you write the maker ▼

NEW DISC CLUTCH

for gasoline engines, electric motors, speed reducers, etc.
operates with light pressure
picks up load without grab

integral V belt pulley

integral sprocket

cut off coupling or sleeve

easy manual operation

adjustable

powerful

For stub or through shaft application, these new Type K clutches — rated up to 3 H.P. at 100 r.p.m.—have generous safety factors throughout to stand severest service. Threaded steel adjuster permits precise easy adjustments to assure maximum capacity and minimum engaging pressure. Clutch locks itself in engaged position.

Write for new descriptive Bulletin K-1, including complete specifications.

THE EDGEMONT MACHINE CO.
2200 HOME AVENUE • DAYTON 1, OHIO

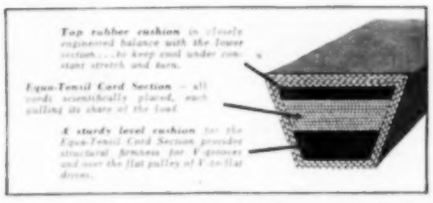
▼ BREVITY—Identify by IEN - 1296 if you write the maker ▼

You can stretch a V-BELT just so far... and we do it!

THE CORDS in every U. S. Rubber V-Belt have had their stretch worked out by mechanical means. These cords are placed over sheaves of prescribed diameters and at controlled tensions, which insures minimum stretch in the finished belts. Enough elasticity is retained in the cords to enable the belt to withstand severe shock loads, yet permanent stretch is held to a minimum.

To reduce any functional heat generated by constant flexing, and to get maximum adhesion between the component parts of the belt, the cords are treated with latex.

Of course, each belt has that unique development which provides efficient pull and strength under diverse operations—the Equa-Tensil Cord Section. Protective jackets increase the grip while keeping out the dirt and prolonging wear. Order from your jobber, or for more information write to address below.



MULTIPLE V-BELTS • F. H. P. BELTS • FAN BELTS
SPECIAL PURPOSE BELTS

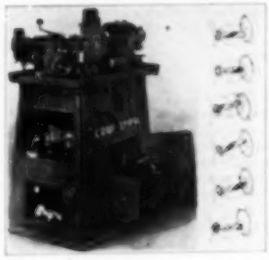
PRODUCTS OF U.S. RUBBER — SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY
MECHANICAL GOODS DIVISION • ROCKEFELLER CENTER, NEW YORK 20, N. Y.

▼ BREVITY—Identify by IEN - 1298 if you write the maker ▼

GRINDING . . Sharpening machine for twist drills from 1/32 to 1 inch

Source: KURT ORBAN CO.
204 E. 43rd St., New York 17, N. Y.



Made in Germany

Rotating head on the right-hand side of this new machine mounts a drill-holding chuck on its planetary-gear spindle to position a drill in correct relation to the grinding wheel. Each revolution of the head brings the lips of the drill in contact with the wheel and at the same time turns the drill upon its own axis. For each revolution of the head a two-lip drill will make 1½ revolutions on its own axis. For three-lip drills the ratio is 1 1/3 to 1. This positions the cutting lips in sequence each time the drill revolves in contact with the grinding wheel to grind them exactly alike with correct shape, lip-relief clearance and cutting angle.

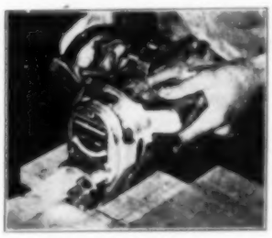
Two chucks cover the range from $\frac{1}{32}$ to $\frac{5}{16}$ in. and from $\frac{5}{16}$ to 1 inch. The chuck is opened and closed by hand. The head can be pivoted for required change in point angle. The lip-relief angle can be adjusted within the normal range in connection with a scale on which the angle is read. The drive head is backed away from the grinding wheel by operating a hand lever to place and remove a drill.

The grinding wheel is belt connected to a three-phase 1½-hp. motor for operation on 220/440-volt 60-cycle ac. It rotates at 2,040 rpm. and measures 10 by 1½ inches. On the outer end of the wheel spindle is a 6 by $\frac{1}{16}$-in. wheel for free-hand web thinning. The longest drill that can be handled measures 12 in. in length with the large chuck. The machine occupies a floor space measuring 35½ by 24 inches. It stands 49 in. in height. Operating accessories are included.

▼ BREVITY—Identify by IEN - 1299 if you write the maker ▼

WOODWORKING . . Portable tool mounts 1¾ in. contour cutting head

Source: COMPOSITE DIE SUPPLY CO.
14308-12 Birwood Ave., Dept. 61, Detroit 4, Mich.



Cuts on end and side

Handshaper is a new motor-driven tool for operation at 18,000 rpm. on 110-volt ac. or dc. It is held by its two handles to present the revolving cutter head to the work. Concave and convex curves can be followed with operation in any position. The tool measures 7 in. in length, 9 in. in width, 11 in. in height. It weighs 18 pounds. A 12-ft. extension cord, set of blades and tools are supplied with the new tool.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

▼ BREVITY—Identify by IEN - 1300 if you write the maker ▼

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electron tubes for industry

Quick, Expert Service on all RCA special-purpose industrial tubes

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Everything in Electronics from ONE Source

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- 130" Extreme Lift
- 59½" Free Lift
- 60" Turning Radius

Mercury JEEP
MODEL 230
2000 Lb. Capacity
Tilting — Tiering

The most versatile fork truck of 2000 lb. rating. 130" lift with ample stability...60" turning radius *plus* inclined automotive steering... foot pedal acceleration... convenient controls and many other design advancements. For complete details request Bulletin 205.

MERCURY MANUFACTURING COMPANY
4132 S. Halsted Street • Chicago 9, Illinois

▼ BREVITY—Identify by IEN - 1302 if you write the maker ▼

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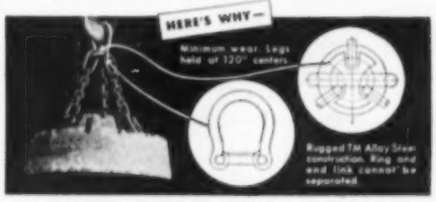
Write for NOZZLE CATALOG *to*
SPRAY ENGINEERING CO.
110 CENTRAL STREET • SOMERVILLE 45, MASS

▼ BREVITY—Identify by IEN - 1303 if you write the maker ▼

TM *Alloy Steel Downtown*
Frictionless MAGNET CHAINS

DO MORE WORK, LAST LONGER, COST LESS than conventional types!



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S. G. TAYLOR CHAIN COMPANY, Hammond, Indiana

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Dept. 4, Hammond, Indiana
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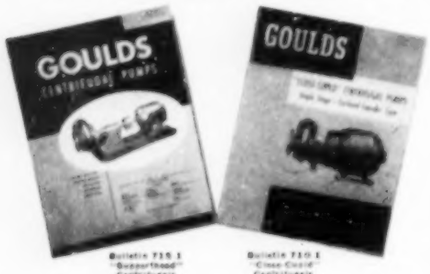
Name _____
Address _____

TAYLOR MADE — A GREAT NAME IN *Chain* SINCE 1911

BREVITY—identify by IEN - 1304 if you write the maker



Bulletin 710.1 "Supporthead" Centrifugals

Bulletin 710.1 "Close-Cupled" Centrifugals

These new bulletins make it easier for you to select the right pump

These new bulletins have been designed to help you. New sizes are listed, and, in each bulletin we have put a composite rating chart which includes both "Close-Cupled" and the supporthead. This makes it dead simple to put your finger on the right pump for your requirements.

Another valuable feature of these bulletins is the parts chart. Using this you see exactly what parts are interchangeable for all size pumps and so can keep your spare parts investment to a minimum.

Send for these useful FREE bulletins *today*. Goulds Pumps, Inc., Seneca Falls, N. Y.

Goulds PUMPS INC. Seneca Falls New York

BREVITY—identify by IEN - 1305 if you write the maker

Reported by Users of

STANDARD PNEUMATIC TUBE SYSTEMS

Safe — swift delivery by "AIR" of messages . . . money . . . merchandise!

Savings as high as $10,000 in 9 months' time are reported by users of Standard Pneumatic Tube Systems — filling orders, moving merchandise, money, messages, records, between departments. Reduce messenger and telephone service. Can be installed for a wide range of needs in stores, warehouses, manufacturing plants, offices. Write for Bulletin No. 11 and complete information — address Dept. IEN-22.

STANDARD CONVEYOR CO.
North St. Paul 9, Minn.

Write for Bulletin No. 11 Standard Pneumatic Tube Systems. Address Dept. IEN 22

Standard GRAVITY & POWER CONVEYORS

BREVITY—identify by IEN - 1306 if you write the maker

new

CHAIN MAINTENANCE HANDBOOK

Your Guide to Longer Chain Life

Want to get longer life from your chain drives and conveyors? This new handbook is packed with tips that help make chains last longer. There are sections on installation, operation, lubrication, repair and storage, with a special section on sprockets. There are lots of sketches, photos and charts . . . and it's bound in a handy pocket size.

Send for your copy today!

REX CHAIN BELT DRIVE AND CONVEYOR CHAINS

51-129

CHAIN BELT COMPANY, 1675 W. Bruce St., Milwaukee 4, Wis.
Gentlemen: Please send me Bulletin 51-7.

Name .....
Company ..... Dept. .....
Address .....
City ..... State .....

NEWS NOTES

Reviews and announcements to keep you informed on sources of special assistance for your daily problems. Subjects include unusually helpful manufacturers' literature, textbooks of industrial interest, slide films and motion pictures on training or product description, unusual applications of existing equipment, formation of new service organizations, new processes, expositions, conventions. Copies of printed material and films are available. Any limiting conditions are named.

BREVITY—identify by IEN - 1307 if you write the maker

ALUMINUM . . Story of Alcoa traces company's history from beginning to date

Rinehart & Co.
232 Madison Ave., New York 16, N. Y.

Charles C. Carr, former director of public relations for Aluminum Company of America, is author of new 304-page book, "Alcoa: An American Enterprise." List price is $3.50. The book traces the company's history from its beginnings with Charles Martin Hall's experiments in a woodshed.

BREVITY—identify by IEN - 1308 if you write the maker

CALENDAR . . Available on request particularly for individuals in low-temperature research

Arthur D. Little Inc.
28-32 Memorial Drive, Cambridge 42, Mass.

Feature of company's 1952 calendar by its Mechanical Division is a table of boiling points of 33 gases at one atmosphere. These are given in degrees Centigrade, Fahrenheit and Kelvin over a range from helium to carbon tetrachloride. Calendar size is 10 by 16 inches.

BREVITY—identify by IEN - 1309 if you write the maker

CALENDAR . . On a decal transfer to mount permanently on a desk or wall surface

Palm, Fechteler & Co.
220 W. 42nd St., Room 1102, New York 18, N. Y.

Calendar and inch rule are combined in 1952 De-calendar which the company will send you while the supply lasts. The decal transfer measures 12 by 2¾ in., is applied in standard manner, becomes part of the mounting surface.

BREVITY—identify by IEN - 1310 if you write the maker

CALENDAR . . Available on request, provides space for daily reminder notes

Rockwood Sprinkler Co.
36-40 Harlow St., Worcester 5, Mass.

Each month in the company's 1952 Desk Memo calendar occupies a 12 by 10¾-in sheet of heavy paper. Space is provided for each day to note appointments or other activities so you can see your schedule at a glance. Spiral binding enables the pages to be turned over to make notes on the back.

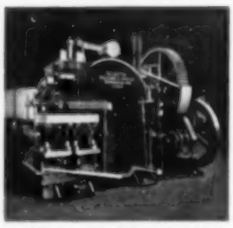
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 1311 if you write the maker

BEATTY *Machines*

SPEED YOUR PRODUCTION

There's a better-designed, better-built BEATTY machine for practically every metal-working application. If you have a production problem, let a Beatty engineer study it.



BEATTY No. 11-B Heavy Duty Punch for production tooling and use with BEATTY Spacing Table.

BEATTY CoPunShear — one compact unit handles Coping, Punching, Shearing.

BEATTY Horizontal Hydraulic Bulldozer for heavy forming, flanging, bending.

BEATTY MACHINE & MFG. CO.
HAMMOND, INDIANA

BREVITY—identify by IEN - 1312 if you write the maker

Give Gummed-up Paint the Brush-off!

with

CABOT'S BRUSH CLEANER

Good brushes are valuable and hard to get. Keep them in top condition. Non-inflammable, fast-working Cabot's Brush Cleaner knocks out hardened paint right down to the heel. Safe for bristles and settings . . . won't evaporate . . . comes ready to use . . . economical because it can be used over and over again!

FREE SAMPLE and complete information . . . write today to

Samuel Cabot, Inc.
233 Oliver Building Boston 9, Massachusetts

BREVITY—identify by IEN - 1313 if you write the maker

HE'S LOOKING FOR TROUBLE!!!

Your Lustra Man will shoulder your lighting problems . . . and save you money, too!

TODAY, over a hundred thousand stores, plants and institutions are getting better lighting at lower cost. This new way of buying lighting is available only through your local Lustra Man.

You'll find him conscientious and thoroughly qualified to solve practically any lighting problem with the complete quality line of Lustra Double Duty Lamps and Fluorescent Tubes.

Simply write us and we'll have your Lustra Man call on you, or phone you for an appointment. Lustra Corporation, Dept. P-2, 36 Washington St., Brooklyn 1, N. Y.

Lustra
AMERICA'S DATED LAMPS

DOUBLE DUTY REFLECTOR LAMPS, INCANDESCENT LAMPS, FLUORESCENT TUBES, SPOTLITES AND FLOODLITES, RUGGED DUTY LAMPS, FLUORESCENT FIXTURES AND STARTERS

BREVITY—identify by IEN - 1314 if you write the maker

Before you select a Temperature Regulator, compare low-cost Stacon with the best. No other regulator has as many features or offers as many advantages as a Farris Stacon.

PROVE IT!

Make this Chekchart Test

	Farris Stacon	Air Operated	Self Operated
• Dirt Proof — Hermetically Sealed?	Yes		
• Extreme Accuracy?	±1°		
• Packing or Glands to Leak?	No		
• Drop-tight Shut off?	Yes		
• Vapor-steam Energized Super Power Pilot?	Yes		
• Supervision—Maintenance?	None		

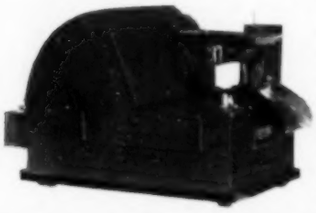
Write for Stacon Bulletin 50-1000. It contains complete information on the most sensitive, accurate, economical temperature regulator available . . . anywhere.

Farris Stacon Corp.
432 COMMERCIAL AVE. PALISADES PARK, N. J.

▼ BREVITY—identify by IEN - 1315 if you write the maker ▼

A NEW Time Saving Precision Weighing Unit . . .

many products made in the past depended upon skill alone. Since skill is a personal element lack of uniformity was the result. This lack of uniformity was due to formulae failure which brought forth a high percentage of rejection in finished parts. Simple pre-determined weighing corrects this fault, improves finished parts, cuts costs and waste of materials. Newest weighing unit for solving this problem is EXACT WEIGHT Shadograph (illustrated). Features high precision accuracy . . . automatic dump to speed up operation . . . is the last word in precision compounding equipment. Unit is entirely electrically operated. Write for complete specifications to fit your particular operation.



EXACT WEIGHT SCALES
Industrial Precision

THE EXACT WEIGHT SCALE COMPANY
932 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W., Toronto 18, Canada

▼ BREVITY—identify by IEN - 1316 if you write the maker ▼

ENGINEERED all the way!

Towmotor Fork Lift Trucks Are Your Best Engineering Value

Superior engineering in every detail gives Towmotor Trucks their broad-shouldered liking for responsibility. They are cutting costs for users everywhere by job simplification, time, space, and manpower conservation. The reason: they're engineered *from the ground up*, with an in-built brute strength to provide continuous, round-the-clock service.

Towmotor Knows Your Industry. Send for *certified job studies*, covering your industry. Write: TOWMOTOR CORPORATION, Div. 26, 1226 E. 152nd St., Cleveland 10, Ohio. Representatives in all Principal Cities in U. S. and Canada.

TOWMOTOR FORK LIFT TRUCKS and TRACTORS

RECEIVING • PROCESSING • STORAGE • DISTRIBUTION

▼ BREVITY—identify by IEN - 1317 if you write the maker ▼

TRACEABLE DRAWINGS

OF Flush Latches AND HINGES

another HARTWELL SERVICE

Specially prepared full size traceable drawings of all HARTWELL Flush Latches and Hinges are now available to designers and draftsmen. Request a complete file. They will be sent to you free of charge and without obligation. The HARTWELL policy of serving the needs of engineers and the industry includes the design and production of a complete line of flush latches and hinges for every application.

Write for new Flush Latch and Hinge Catalog

HARTWELL COMPANY
9035 VENICE BOULEVARD, LOS ANGELES 34, CALIFORNIA

NEWS NOTES—Continued

▼ BREVITY—identify by IEN - 1318 if you write the maker ▼

COMPRESSOR . . To agitate milk by air, bulletin stresses part played by non-lubricated cylinder

Ingersoll-Rand Co.
11 Broadway, Dept. NR, New York 4, N. Y.

Carbon piston rings employed in the company's Type-NL compressor enable it to deliver oil-free air suited to agitate milk for uniform butterfat content. Eight-page Booklet 1523 describes the method, reasons for its use, shows internal construction of the compressor, lists available models.

▼ BREVITY—identify by IEN - 1319 if you write the maker ▼

CONVEYING . . Schematic flow diagram shows application points for wire conveyor belts

Cambridge Wire Cloth Co.
Vienna Road, Cambridge, Md.

Fruit processing plant operation is shown by a 20 by 9-in. schematic flow diagram in new 10-page pocket folder, "Nine Ways to Speed Production and Maintain Sanitary Requirements in Fruit Processing Plants." A color code shows application points for the company's woven-wire conveyor belts or industrial wire cloth. Text describes the applications in detail.

▼ BREVITY—identify by IEN - 1320 if you write the maker ▼

CUTTING . . Stellite tools for metal described as to design, alloy types, application

Haynes Stellite Division
723-27 S. Lindsay St., Kokomo, Ind.

Properties of the company's metal-cutting tool alloys are described by text and tables in initial section of new 48-page Booklet F-7783. Following this is a section on metal cutting that shows chip formation in brittle and ductile materials, a section on design factors affecting tool life, information on available alloys, speeds and feeds, grinding instructions.

▼ BREVITY—identify by IEN - 1321 if you write the maker ▼

DEFENSE PRODUCTION . . Quarterly report by Director of Defense Mobilization is interesting reading

Superintendent of Documents
Government Printing Office, Washington 25, D. C.

"The Battle for Production" titles 56-page fourth quarterly report by Charles E. Wilson, Director of Defense Mobilization. You can secure a copy for 35 cents direct from the address above. The report reviews progress during 1951, tells what is being done to increase military production, expand our basic economy, impact of material shortages, transportation, manpower, inflation, building up the free world, minimizing effect of enemy attack. It concludes with a look at defense mobilization in the year ahead.

▼ BREVITY—identify by IEN - 1322 if you write the maker ▼

EQUIPMENT MAINTENANCE . . Sound slide film presents essentials of a recommended maintenance program

General Electric Co.
Dept. 6X-201, Schenectady 5, N. Y.

"Productive Maintenance" titles new slide film which reviews the company's Productive Maintenance Program, shows three examples on how it is used in industrial plants, summarizes six major recommendations for good maintenance. Running time is 12 minutes.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 88

▼ BREVITY—identify by IEN - 1323 if you write the maker ▼

A MIRACLE? No—merely common sense. Just clamp a SERVIS RECORDER on each of your present machines. That little "watch dog" of your production schedules will act as a time clock for your machinery, recording on its chart *ALL* stops and delays, day and night. (Even down to 10-minute periods.) Thus when you can *see* it all right before your eyes, you can plan to eliminate that *down time* and thereby increase production. It's all that simple. Write today for our folder—"A BUSY PLANT." The Service Recorder Co., 1375 Euclid Ave., Cleveland 15, Ohio.

The Servis Recorder
The Time Clock for Machinery

▼ BREVITY—identify by IEN - 1324 if you write the maker ▼

"DROP-IN" RUBBER LININGS FOR 55 GALLON DRUMS

Made of special resistant rubber, these inexpensive and handy barrel liners are unequaled for use as temporary or emergency storage tanks of acid or alkaline solutions or for quickly improvised still tanks for plating experimentation. 22" in diameter, 40" deep, with a .050 wall, the liner fits a 55 gallon drum perfectly and holds itself in position by an overhanging lip. No difficult installation—simply drop into the drum and fasten the lip over the side and you have rubber lined drum ready for use.

The lining is highly suited to handle sulphuric, oxalic, phosphoric, muriatic and diluted hydrofluoric acids, as well as alkaline and acid solutions, for brass, cadmium, silver, tin, zinc, gold, nickel and copper.

Order your supply today at the low price of $19.75 each, f.o.b., Detroit. Immediate shipment.

Pioneer of A Better Way in Plating

THE Udylite CORPORATION
DETROIT 11, MICHIGAN

▼ BREVITY—identify by IEN - 1325 if you write the maker ▼

THEY GRIND--NOT JUST RUB!

The RPM's stay up while grinding . . . not only when the grinder runs idle.

It is an established fact that surface speeds must stay up to approximately a mile a minute if you want to grind . . . not just rub. Every mechanic knows this, but an inexperienced buyer may order tools that maintain proper grinding speeds only when running idle. The speed of Kipp air grinders drops but slightly when put to work. That means better work . . . longer wheel life.

MADISON-KIPP CORP.
224 Waubesa St., Madison, Wis., U. S. A.

Write for KIPP Air Tool Catalog AT 3006

▼ BREVITY—identify by IEN - 1326 if you write the maker ▼

HIGH EFFICIENCY

DUST CONTROL

with DUCLONE COLLECTORS

- Because each DUCLONE COLLECTOR is tailor-made for specific use . . . in proper balance—in shape, size of clone and vortex—in relation to air velocity.
- Because scientifically designed and built to eliminate all destructive eddy currents and resistance to centrifugal action.
- Because only DUCLONE is equipped with inlet control and adjustable vortex shield to give highest performance efficiency.
- Expertly engineered . . . simple and sturdy construction . . . assure long, continuous heavy duty service.
- *A DUCON engineer will gladly confer with you on any dust problem.*

Write for descriptive, illustrated catalog DC49-1

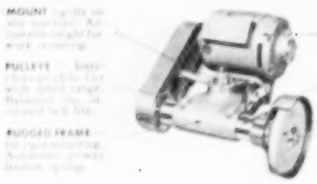
The DUCON Co.
MINEOLA, N. Y.

▼ BREVITY—Identify by IEN - 1327 if you write the maker ▼

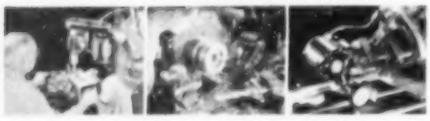
ONLY THE

DUMORE GRINDER

offers you all these application possibilities

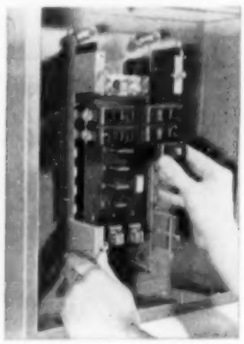


PLUS ALL THESE APPLICATION POSSIBILITIES



If you write for the Dumore catalog THE DUMORE COMPANY 1319 Seventeenth St. • Racine, Wisconsin

▼ BREVITY—Identify by IEN - 1328 if you write the maker ▼



NEW CLASS I PANELBOARD IS *FIRST* WITH PLUG-IN BREAKER

Trumbull's new line of NLTQ Panelboards introduces the first *plug-in* circuit breaker with quick-make, quick-break. Also: thermal-magnetic protected, physically interchangeable breakers.

OTHER NEW FEATURES

Interior — spring mounted, self aligning.
Molded-in-plastisol busbar and stab assembly.
Sequence phasing — in all sizes.

Write for Bulletin TEB-14

TRUMBULL (T) ELECTRIC

DEPARTMENT OF GENERAL ELECTRIC COMPANY
Plainville, Conn.

▼ BREVITY—Identify by IEN - 1329 if you write the maker ▼

Cut Costs with MEAD MIDGET Air-Clamps!

Horizontal and Vertical!

Pneumatic Cylinders

Both models deliver 80 lbs. pressure on a line pressure of 100 lbs. They'll save countless man-hours in assembly operations involving welding, riveting, boring, etc. Advantages over mechanical clamps: 1. Any number can be operated by single master valves. 2. Easily installed in cramped corners. 3. Equal ram pressure at any stroke point.

Send for new Mead AIR POWER Catalog, describing our line of Air Clamps, Air Vises, Air Presses, Work Feeders, Valves, Controls, etc.

MEAD SPECIALTIES COMPANY

4114 NO. KNOX AVE., DEPT. E-22-A, CHICAGO 41, ILL.

NEWS NOTES—Continued

▼ BREVITY—Identify by IEN - 1330 if you write the maker ▼

EQUIVALENTS . . Wall chart of decimal equivalents is 17 by 24 inches

John Hassall Inc.
Oakland & Clay Sts., Brooklyn 22, N. Y.

Common fractions from 1/64 to 63/64 in. are shown with their decimal equivalents to four places in the company's recently redesigned wall chart, available on request. Color coding is used to assist in finding. The border reproduces 88 types of special cold-headed nails, rivets, studs made by the company.

▼ BREVITY—Identify by IEN - 1331 if you write the maker ▼

EQUIVALENTS . . Wall chart of fractions and decimal, foot, metric equivalents

Frederick Post Co.
3652 N. Avondale Ave., Chicago 18, Ill.

One side of new 17 by 22-in. Conversion Chart contains standard decimal equivalents of common fractions from 1/64 to 63/64 inches. The other side contains decimal parts of a foot and corresponding millimeter equivalents for the same fractions. It also lists decimal inches to six places for 1 to 32 millimeters. A copy will be sent you upon request.

▼ BREVITY—Identify by IEN - 1332 if you write the maker ▼

FURNACES . . Maintenance suggestions on electric heat treating furnaces in booklet

Hevi-Duty Electric Co.
4210-14 W. Highland Blvd., Milwaukee 1, Wis.

Fifteen suggestions are described in new 16-page pocket manual, "Maintenance Guide for Electric Heat Treating Furnaces." They are grouped by heating elements, fans and blowers, brickwork and insulation, retorts and muffles, thermocouples. A **check** list is included.

▼ BREVITY—Identify by IEN - 1333 if you write the maker ▼

GEAR CUTTING . . Finish shaving method described as to its economics and variations

Michigan Tool Co.
7169-73 E. McNichols Road, Detroit 12, Mich.

Diagram and text show how gears are finished by shaving, variations on the method are described, eleven advantages and scope of the method are given in new 4-page bulletin, "Gear Finishing—When, Where and How to Use It." A copy will be sent you upon request.

▼ BREVITY—Identify by IEN - 1334 if you write the maker ▼

GRINDING . . Maintenance instructions for 180 and 360-cycle portable electric tools

Rotor Tool Co.
17323-27 Euclid Ave., Cleveland 12, Ohio

Periodic inspection is emphasized at the start of new 12-page Bulletin 39, "Keep 'em Working." Condensed instructions and little sketches cover lubrication, bearings, switches, cable, stators, heating of tools, power supply and wiring, shorts and grounds, fusing, safety rules for operation. Sectional views show typical construction on 180 and 360-cycle grinders.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1335 if you write the maker ▼

GRIPPING FORCE 15 TIMES AIR LINE PRESSURE

Speedy Air Vise helps you do dozens of operations faster, better, cheaper—by air pressure! Foot control valve opens and shuts vise instantly, leaving *both* hands free to produce more! Jaw opens up to 3 inches, holds castings, parts, jigs, etc. Compact and trouble-free.

Complete with Foot Control, Air Hose and Fittings . . . . . only $29.90

Prompt Delivery from Your Supplier or Write Direct

W. R. BROWN CORPORATION • 2645 N. Normandy Ave. Chicago 35, Ill.

AIR REGULATORS • AIR FILTERS • AIR GUNS • PORTABLE COMPRESSORS

▼ BREVITY—Identify by IEN - 1336 if you write the maker ▼

Variable Speed Control for Light Machinery

Costs only a trifle — brings amazing results

Converts a constant speed motor to a variable speed drive . . . fits on standard motor shaft. Provides accurate, positive speed changes while the machine is running. With a turn of handwheel, you get exactly the right speed for every job under every changing condition. Sizes from 1/8 to 1½ hp—$7.50 and up. Write for Bulletin IN 66a-J.

Reeves Pulley Company • Columbus, Ind.
REEVES *Variable Speed Control*

▼ BREVITY—Identify by IEN - 1337 if you write the maker ▼

RUBBER IS THE ANSWER

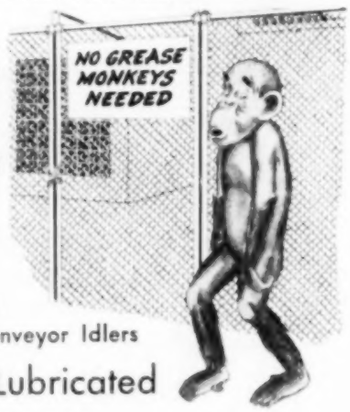
Performing faultlessly in former trouble spots, Acushnet precision-molded rubber parts have proven to be the answer to many application problems. Advanced techniques in compounding synthetic and natural rubbers, skillful designing and mold-making enable Acushnet to produce parts that meet your special requirements. Our engineers will gladly collaborate with your designers or make separate recommendations.

Acushnet PROCESS COMPANY
NEW BEDFORD, MASS., U. S. A.

Address all correspondence to
760 Belleville Ave., New Bedford, Mass.

▼ BREVITY—Identify by IEN - 1338 if you write the maker ▼

Out of luck since Transall took over



Transall
Belt Conveyor Idlers

Pre-Lubricated

No Lubrication Labor
No Lubricant Cost

TRANSALL INC.

Manufacturers of a complete line of Belt Conveyor Equipment

117 North 11th St. Birmingham 4, Ala.

▼ BREVITY—Identify by IEN - 1339 if you write the maker ▼

Exceptionally Resistant to Heat...

YET AMPLY FLEXIBLE ON THE JOB!

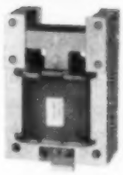
This chrome-tanned split horsehide welder's glove PROTECTS ON GAS WELDING AND THE HEAVIEST AMPERAGE ELECTRIC WELDING. Leather is top quality, tanned to take the hardest wear while remaining soft and flexible for working comfort. One piece back and palm. Welted at all vulnerable seams for added protection. Your nearest AO Safety Products Representative can supply you.

American Optical SAFETY PRODUCTS DIVISION

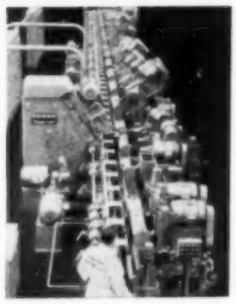
Southbridge, Massachusetts • Branches in Principal Cities

▼ BREVITY—Identify by IEN - 1340 if you write the maker ▼

Where PRECISION Control Counts THE CROSS CO. PICKS NAMCO SOLENOIDS



Namco "Stellite"-Welded Solenoid No. 16K200, one-inch-stroke, 17 lb.-push-type, is used on 54-station Cross Transfer-matic (illustrated at right) performing 104 automatic operations in drill, mill and tap automotive automatic transmission cases.



Multiple-operation automatic machining always places a premium on precision. Imagine what would happen, for example, if just *one* of the 104 operations performed at the 54 stations of this Cross Transfer-matic fell down due to faulty controls! At twenty-three of the stations this machine performs drilling, reaming and counterboring operations automatically—*and drill depth must be held to .0015!*

That's where high-speed action and precision operation—both basic characteristics of every Namco "Stellite"-Welded Solenoid—really count. Cross uses our No. 16K200, one-inch-stroke, 17 lb.-push-type model—but Namco Solenoids are available in a wide variety of capacities and standard mountings, either push or pull type (up to 25 pounds) to meet almost every industrial application.

Our engineers will be glad to help you select the right size and type, either standard or modified mounting, to fit your exact requirements. May we help you design these Namco *Precision* Solenoids into your product?

The complete standard range of Namco "Stellite"-Welded Solenoids is illustrated and tabulated in Engineering Bulletin EM-46A. Ask for your copy.

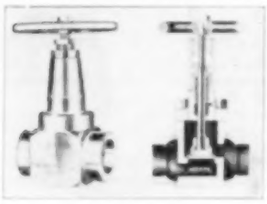
ELECTRICAL MANUFACTURING DIVISION

THE NATIONAL ACME CO.
CLEVELAND, OHIO

▼ BREVITY—Identify by IEN - 1342 if you write the maker ▼

VALVES . . Globe design, steel forgings in welded assembly

Source: HOPPE ENGINEERING CO.
49 Hoppe St., Greensboro, Ind.



Each is hand made

The section view of the new valve to the right in the illustration indicates the manner in which a number of forgings are combined and welded for services rating 900, 1,500 and 2,500 pounds. Body and bonnet are square stock. Overall dimension of this 2-in. unit is 7⅝ in. in height from the center to the top of the stem. Sizes are available from ½ to 3 inches. Designs include globe, angle check, screwed, flanged, socket weld.

The valve to the left also is made of steel forgings for 10,000-lb. service. It is available in sizes from 1 to 6 inches. The 1-in. size measures 4½ in. between the faces. The 4-in. unit measures 12 inches. This valve is welded so its inner mechanism is not accessible. It is for use with poisonous liquids and gases which the company can name.

▼ BREVITY—Identify by IEN - 1343 if you write the maker ▼

WELDING . . DC. arc machine operates on three phase ac. input

Source: A. O. SMITH CORP.
3531-35 N. 27th St., Milwaukee 1, Wis.

Detailed data in Bulletin W-139

Three sizes in a new line of dc. rectifier-type arc-welding machines rate 200, 300 and 400 amp. on 40 volts. Each is available for connection to a 220 or 440-volt three-phase line to supply the input power. Each assembly is in a cylindrical housing measuring 21 or 23 in. in diameter by about 46 to 48 in. in height. Weights are 450, 555 and 625 pounds.

▼ BREVITY—Identify by IEN - 1344 if you write the maker ▼

PAINTING . . Hand brush made from company's synthetic bristles

Source: PITTSBURGH PLATE GLASS CO.
3219-23 Frederick Ave., Baltimore 29, Md.

Lists at $3.70

FleetWing Wall Coater is a new 7-in. hand brush employing the Neoceta synthetic bristles, previously described IEN-8200-51. The brush holds a considerable amount of paint. It is light in weight and is particularly suited for application over large wall areas. Construction includes two narrow metal channels in which double-length strands of the bristles are locked permanently. The handle clamps in place and is designed to apply the brush in free-swinging strokes. Test application of 50 consecutive painting hours showed no noticeable depreciation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1345 if you write the maker ▼

PRECISION INTERNAL FORMING TO MEET PRODUCTION DEMANDS

QUICK ADJUSTMENT AND POSITIVE ACTION make the MAX-WELL-MADE Model JF recessing tools especially suitable for use in today's high speed production schedules.

This tool operates on any jig and fixture set up to cut snap ring grooves, "O" ring grooves and oil labyrinths as well as for inaccessible spot facing, external necking, precision undercutting, etc.

Accurate to within ±0.001 inch, Model JF is available in five sizes to pilot into standard bushings from 1" to 2⅛ inches.

JF tools can be supplied with either standard Morse or adjustable adapter, quick change, straight or special shanks.

Write today for catalog (Model JF)

THE MAXWELL COMPANY
380 BROADWAY • BEDFORD, OHIO

▼ BREVITY—Identify by IEN - 1346 if you write the maker ▼

Be fresh... stay fresh

wear a DUPOR No. 20 Water-Cooled Respirator

Double sponges dipped in water before wearing provide cool breathing even under hot, smoky conditions. Recommended for use of workers in paint shops, foundries, steel mills, oil refineries, chemists, firemen, etc. Face mask is of rubber, equipped with DUPOR "controlled breathing" valves. Wearer has a panorama view with no blind spots. Glasses or goggles can be worn with unit.

Sample sent $2.50 pp

H. S. COVER
South Bend, Ind.

▼ BREVITY—Identify by IEN - 1347 if you write the maker ▼

PUMPING ALKYD RESINS & VARNISHES IN WEST COAST PAINT PLANT. INSTALLATION BY PACIFIC COAST ENGINEERING COMPANY

"Why **CARRY** *materials that* **FLOW?"**

BLACKMER PUMPS are cutting materials handling costs in this and many other plants pumping liquids varying from naphtha to tar.

Check your own liquid materials handling costs NOW. Blackmer pumps may be YOUR ANSWER.

Get "FACTS" about Rotary Pumps

Write for "FACTS" about Rotary Pumps. See why these pumps save money for owners.

BLACKMER PUMP COMPANY
GRAND RAPIDS, MICHIGAN

▼ BREVITY—Identify by IEN - 1348 if you write the maker ▼

When the motor for this cullet crusher was equipped with a HYDRO-SHEAVE, the acceleration was so smoothed out that the starting current was reduced from 400 amps to 180.

Running current was reduced from 40 amps to 18 amps. Moreover, a 15 hp motor replaced a 25 hp, and plain across-the-line starting switch was used. Learn more about the amazing savings being made with HYDRO-SHEAVE Drives. They slip on right over the motor shaft—are installed in a few minutes. Write for Bulletin No. 145-B and Installation Reports Numbers 1 to 14.

TWIN DISC *Clutches & Hydraulic Drives*

TWIN DISC CLUTCH COMPANY, RACINE, WISCONSIN

▼ BREVITY—Identify by IEN - 1349 If you write the maker ▼

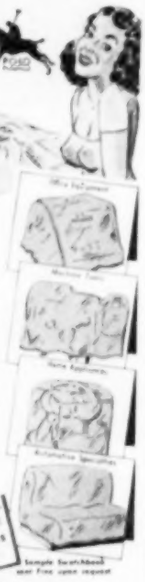
"POLO"

Custom-Designed

VINYL PLASTIC

Protection

Guards Your Products Or Equipment From Harmful Dust Or Moisture



Use soft, flexible—transparent or translucent—Virgin VINYL PLASTIC to protect your product—whether in process or finished. Tough, long-lasting, moisture and stain proof. Polo Plastics designers create exactly the type of protection conforming to the shape and size requirements. Seams of elastic Nylon thread, or electronically welded for utmost moisture or dust protection. Fastening with grommets, zippers, etc. Silk-screen process printing.

Send your drawings, specifications, or sample unit for prompt cost estimates.

Sample Swatchbook sent Free upon request

POLO PLASTICS CO.

825 E. Chicago St. Milwaukee 2, Wis.

▼ BREVITY—Identify by IEN - 1350 If you write the maker ▼

WE MAKE *ALL* TYPES OF PLUG VALVES

. . . including the right one for your needs

We are the only manufacturer who makes *all* of the various types of plug valves used in industry . . . LUBRICATED . . . NON-LUBRICATED . . . FULL PORT . . . VENTURI. We have no "leaders." *We make them all*, therefore, we have no reason to "push" one type valve over another. Our only concern is to see that you get the *right* valve for *your* requirement.

To help you keep this in mind the next time you need plug valves, we'd like to send you our catalog. Why not write for it today.

HOMESTEAD VALVE MANUFACTURING COMPANY

"Serving Since 1892"

P. O. BOX 85 CORAOPOLIS, PA.

▼ BREVITY—Identify by IEN - 1351 If you write the maker ▼

CANNING COMPANY CUTS COSTS WITH SLO-SPEED

Plant Supt., V. Rubino, reports that San Jose Canning Co. has effected many plant economies resulting from the following advantages of Slo-Speeds . . . Slo-Speeds provide the gear reductions required by our machinery . . . they require less mounting space and allow easier installation of other equipment in the line . . . totally enclosed gearing eliminates corrosion of outside bearings, gears and shafts exposed to steam and water . . . Slo-Speeds permit easier, more systematic lubrication, require less maintenance.

STERLING SLO-SPEED GIVES YOU THE ONE BEST LOW SPEED AND gives uninterrupted service — carries heavy overhung loads—provides versatile mounting and flexibility in arrangement of machinery—saves valuable space—provides greater safety—costs less to install and use. An indispensable source of low speed power for

Agitators	Dryers	Presses
Blenders	Feeders	Pumps
Blowers	Kilns	Screens
Conveyors	Mills	Tumblers
Cookers	Mixers	Etc., etc.

70 ILLUSTRATIONS showing how Sterling Electric Power Drives reduce production costs. Write for Bulletin No. **C-137.**

STERLING ELECTRIC MOTORS

Plants: New York City 51, Van Wert, Ohio, Los Angeles 22, Hamilton, Canada, Santiago, Chile. • Offices and distributors in all principal cities.

NEWS NOTES—Continued

▼ BREVITY—Identify by IEN - 1352 If you write the maker ▼

HEATING . . Examples of induction heating in booklet to serve as suggestions for your work

Westinghouse Electric Corp.
511 Wood St., Dept. IEN, Room 1110, Pittsburgh 30, Pa.

Booklet B-4782 carries the subtitle, "Tall Tales Come True," as an introduction to the production figures quoted in its 12 pages. The booklet describes application examples on induction heating as applied to production hardening, brazing, soldering. Automatic work-handling fixtures are shown.

▼ BREVITY—Identify by IEN - 1353 If you write the maker ▼

HEATING . . Prize contest on applications of Tocco induction heating units

Ohio Crankshaft Co.
3802 Harvard Ave., Cleveland 1, Ohio

Closing date is June 1 for the company's "Economy in Production" contest in which first prize is $1,000, second prize is $700, third prize $500 and others from $400 to $50. Each entry is an article of 250 words or more dealing with a specific application of the company's Tocco induction heating equipment, information not previously published. Ask for an entry blank with contest rules.

▼ BREVITY—Identify by IEN - 1354 If you write the maker ▼

MELTING . . Sound motion picture on snow melting by radiant heating pipes

A. M. Byers Co.
1501-A Clark Bldg., Pittsburgh 22, Pa.

"A Winter Wonder" titles new 16-mm. sound film on how snow can be melted as it falls on walks, driveways, access roads, runways. It shows construction and installation of pipe grids for radiant heating together with the performance during 1950 in a number of locations. Running time is 9 minutes. A copy is available on loan.

▼ BREVITY—Identify by IEN - 1355 If you write the maker ▼

PHOTOGRAPHING . . Sound motion picture on high speed motion picture photography and its uses

Eastman Kodak Co.
341-45 State St., Rochester 4, N. Y.

Dropping an egg into a frying pan to implosion of a television picture tube is the range of motions that can be slowed down for study and analysis by a new 16-mm. sound film. "Magnifying Time" is the title. The film demonstrates action of the company's high-speed motion-picture camera to record what takes place in these motions and others such as relay operation, cam operation, vacuum coating. Running time is 15 minutes. The company will loan you a print upon request.

▼ BREVITY—Identify by IEN - 1356 If you write the maker ▼

PLASTICS . . Instruction book on how to fabricate and machine plastic materials

Continental-Diamond Fibre Co.
2 Chapel St., Newark, Del.

Specific instructions are given for turning, drilling, threading, punching, shearing, sawing, milling, forming, finishing, marking of plastics by new 64-page "Pocket Book." These cover six vulcanized-fibre, laminated-plastic, plastic-bonded mica materials. Sketches and pictures illustrate design and manufacture points. At the rear is a set of data tables.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1357 If you write the maker ▼

WORKING SHEET OR PLATE STEEL?

LOOK at what PULLMAX CAN DO

STRAIGHT CUTTING

Straight cutting, circle cutting, free hand cutting, slot cutting, beading, folding, louvering and many variations of these operations . . . ALL ON ONE PULLMAX MACHINE! Easy to set up and change tools . . . seven sizes of machines work materials up to 11/32" in mild steel . . . also works stainless steels, non-ferrous metals, wire mesh and plastics.

CIRCLE CUTTING **FOLDING**

WRITE FOR LITERATURE

SLOT CUTTING **BEADING** **FREEHAND**

PULLMAX—A complete sheet and plate working shop in one machine.

AMERICAN PULLMAX CO., INC.

2400 N. SHEFFIELD AVENUE CHICAGO 14, ILLINOIS

▼ BREVITY—Identify by IEN - 1358 If you write the maker ▼

REALOCK FENCE

means what it says

Realock Fence provides real locked-in protection for your grounds and property. All fittings have bolts placed so that nuts are removable only from the inside . . . thereby insuring safety from intruders.

Realock Fence is heavily galvanized by a special process . . . gives weather-resistant, durable service year after year with little or no expense for maintenance. Expert erection service is conveniently available.

For additional information write our nearest sales office or consult your classified telephone directory.

EAST: Wickwire Spencer Steel Division, Buffalo, New York
WEST: The Colorado Fuel & Iron Corporation, Denver, Colorado
PACIFIC COAST: The California Wire Cloth Corporation, Oakland, California

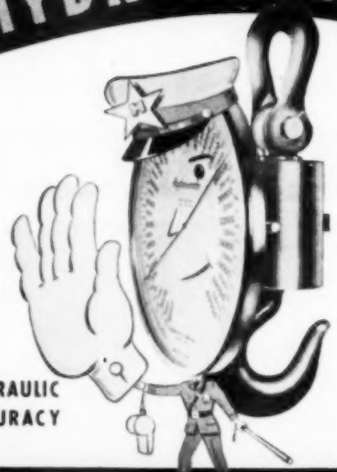
REALOCK FENCE

THE COLORADO FUEL AND IRON CORPORATION CF&I

BRANCHES IN ALL KEY CITIES

▼ BREVITY—Identify by IEN - 1359 If you write the maker ▼

HYDROSCALE



HYDRAULIC ACCURACY

A RUGGED—COMPACT CRANE SCALE THAT PROTECTS YOU AGAINST *LOSS!*

• IN RECEIVING
Check incoming weights at the dock without delay and extra handling

• IN INVENTORY
Avoid transporting heavy bulky material to weighing stations. Speed up the job.

• IN PRODUCTION
Prevent overloading equipment. Batch and measure accurately. Foundries load ladles with even mold pours.

• IN INSPECTION
Scale can be incorporated in tension and load-pulling test equipment.

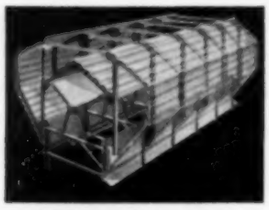
• IN SHIPPING
Check parts going out for sub contract work and final shipping weights.

No tie-up of men and equipment common to central weighing station layout. Weighs instantly as you lift the load to move it! Models 500 to 100,000 lbs. Dials 12", 24" and 30". Kilogram dials and other special designs for special work . . . Write for catalog.

HYDROWAY SCALES, INC.

20632 W. 8 Mile Road, Detroit 19, Mich.

▼ BREVITY—identify by IEN - 1361 if you write the maker ▼



TURN ON THE AIR . . . EXHAUST HEAT, SMOKE AND FUMES WITH THE HIGHLY EFFICIENT

BURT MONOVENT

It's almost that simple, because the Burt Monovent Continuous Ridge Ventilator functions like a gigantic exhaust valve.

Installed as a continuous unit the entire length of the building, Burt Monovent opens the entire roof line to exhaust bad air rapidly from the whole structure. Center hinged type dampers—controlled from floor level—open, adjust and close the unit. Heavy industry—steel mills, foundries, forge shops, etc. find the Monovent particularly useful.

The Monovent's simplicity and heavy construction assure long, trouble-free life with almost no maintenance. See Sweet's for complete data or write for Bulletin S.P.V. 6.

FAN & GRAVITY VENTILATORS · LOUVERS · SHEET METAL SPECIALTIES

The Burt Manufacturing Company
909 So. High Street — Akron 11, Ohio

▼ BREVITY—identify by IEN - 1362 if you write the maker ▼

HERE'S DUO-SAFETY'S TWO-SIDED . . . ALL ALUMINUM MAINTENANCE LADDER

TYPE AL2C

Double Size Platform

Especially Sturdy Spreader

A. Angle Clip Brace.
B. Serrated, Reinforced Step.
C. Angle Brace.

A new ladder in the famous Duo-Safety line of strong, sturdy, aluminum industrial ladders. Has a double climbing side, large top platform, rubber safety boots, light, strong aluminum construction. Ideal for all types of overhead maintenance work including use with extension planks. Available in sizes from 3 to 16 feet and is collapsible for storage in a limited space.

Free, Colorful File Catalog . . . Sent on Request

DUO-SAFETY LADDER CORP.
811 NINTH ST. — OSHKOSH, WIS.

▼ BREVITY—identify by IEN - 1363 if you write the maker ▼

CERTIFIED SAFE...

Explosion-Proof TOTALLY-ENCLOSED

US MOTORS

For hazardous locations where open motors are prohibited; also for dirty, dusty, damp settings where ordinary motors are short-lived. With or without Fire Underwriters' label. With or without fan. Insures safest power, longest life. Asbestos-protected windings. Horizontal and vertical types. ½ to 75 h.p. Write for Bulletin No. 1243.

U.S. ELECTRICAL MOTORS Inc.
Box 2038, Los Angeles 54, Cal. or Milford, Conn.

▼ BREVITY—identify by IEN - 1364 if you write the maker ▼

SCAFFOLD . . Hand winches and trussed steel stage rate 2,000 lb.

Source: BIL-JAX INC.
102 Wyse Road, Archbold, Ohio

Tubular steel

New design of the company's Saf-T-Swing winch-equipped stage, previously described IEN-10467-48, now employs two geared winches, each rating 1,000 lb. capacity and each equipped with 75 ft. of wire rope and a safety hook. The stage itself is trussed design measuring 30 in. in width by 20 ft. in length. The top surface is covered with expanded metal. A guard rail is included. Each winch is equipped with a brake and a pawl engaging a ratchet for safe operation.

▼ BREVITY—identify by IEN - 1365 if you write the maker ▼

STEELS . . For hot work dies, can be cold hobbed, uniformly hardened

Source: CARPENTER STEEL CO.
351 W. Bern St., Reading, Pa.

Technical data upon request

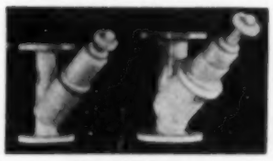
Super Sanson trade names a new die steel that is particularly suited to make molds to die cast aluminum and zinc and to mold plastics involving large cavities as well as elevated temperatures. Its chief characteristic is the fact that it can be cold hobbed as well as machined so finished cavities can be produced by the economical hobbing method.

Brinell hardness is 125 in annealed condition. Heat treatment includes air cooling from a temperature of 1,750 deg. F. with drawing from 800 deg. F. to produce a Brinell of 380.

▼ BREVITY—identify by IEN - 1366 if you write the maker ▼

VALVE . . Globe type plastic for corrosive chemicals, 1 and 2 inch

Source: AMERICAN AGILE CORP.
5804-8 Hough Ave., Cleveland 3, Ohio



$42.50 and $55

Polyethylene plastic is employed in all parts of this new valve except the packing rings and disc which are made of a similar material. Body parts are fabricated and welded into a unit assembly. The bonnet threads into the body to carry the threaded stem. The flanges are standard for application in an existing pipe line. The valve is suited to handle fluids such as hydrofluoric, sulfuric, nitric, hydrochloric acids at temperatures to 170 deg. F. Face-to-face dimension is 6¼ and 9¾ in. in the two sizes.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—identify by IEN - 1367 if you write the maker ▼

with MULTI-CLEAN ASPHALT TILE PRESERVER and THE MULTI-CLEAN METHOD

"We spend 65% less maintenance time on our asphalt tile floors and have cut our material costs in half since using the Multi-Clean Method," says the maintenance director at Seeger Refrigerator Co., St. Paul, Minn.

Multi-Clean Asphalt Tile Preserver and the Multi-Clean Method apply to old and new asphalt tile floors . . . add years to their life, impart a new beauty-clean appearance and sure footing. No wax is required for a bright and gleaming surface.

Maintenance in the Seeger offices includes daily dry dust mopping and damp mopping with cold water followed by machine buffing with a No. 0 steel wool disc every 3 to 4 days. A new application of Multi-Clean Asphalt Tile Preserver is made 4 times a year.

Write Multi-Clean Products, Inc., Dept. IE-2 for details.

Multi-Clean 9-Job Floor Machine

Multi-Clean Wet-Dry Vacuum

MULTI-CLEAN
2377 Ford Parkway
ST. PAUL 1, MINNESOTA

free! FLOOR MANUALS . . Handy file size, each manual deals with a specific type of floor, its characteristics and care . . . asphalt and rubber tile, terrazzo, concrete, wood, linoleum.

▼ BREVITY—identify by IEN - 1368 if you write the maker ▼

HANSEN TACKER for 1001 uses

CHAIR seat covers — with a saving of 6¢ per seat—with neater, faster work — are being tacked with the Hansen Model T-J Tacker.

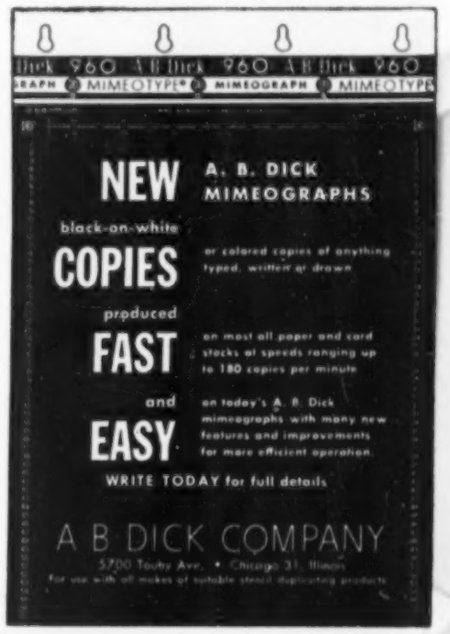
Lee L. Woodward Sons Co., Owosso, Mich., use this modern method. They find the Tacker does a more efficient job. It provides neater seat covers, held securely in place.

Submit your tacking and fastening problems to Hansen, with sketch, sample and details.

Request Booklet

A.L. HANSEN MFG. CO.
5051 RAVENSWOOD AVE., CHICAGO 40, ILL.

▼ BREVITY—identify by IEN - 1369 if you write the maker ▼



▼ BREVITY—identify by IEN - 1370 if you write the maker ▼

BREVITY—Identify by IEN - 1371 if you write the maker

C-D-F makes all three!

Low cost Spiral-wound Tubes

• Want stiff, sturdy, crush resistant tubing? Want low cost insulation for coil bodies and structural spacers?

C-D-F, experts in insulation, makes spiral-wound tubes by the mile . . . gives you dependable tubes with prompt deliveries.

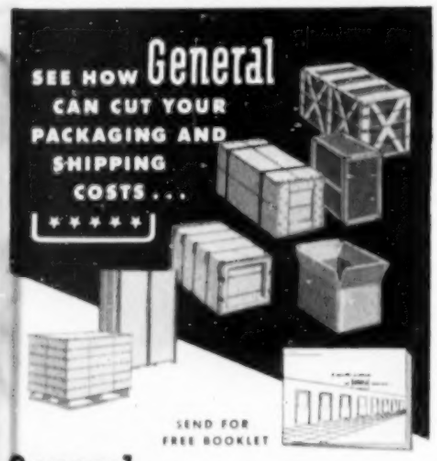
Write for samples of these round, square, rectangular tubes today. We will rush them, along with complete electrical and mechanical specifications *and* the name of your nearest C-D-F sales engineer. Find out . . . write now . . . for C-D-F spiral-wound tubing!

Continental-Diamond Fibre Company

NEWARK 21, DELAWARE

BREVITY—Identify by IEN - 1372 if you write the maker

SEE HOW General CAN CUT YOUR PACKAGING AND SHIPPING COSTS . . .



SEND FOR FREE BOOKLET

General BOX COMPANY

GENERAL OFFICES:
1815 MINER STREET, DES PLAINES, ILL.

DISTRICT OFFICES AND PLANTS: Cincinnati, Denville, N. J., Detroit, East St. Louis, Kansas City, Louisville, General Box Company of Mississippi, Meridian Miss., Milwaukee, Sheboygan, Winchendon, Continental Box Company, Inc.: Houston, Dallas.

BREVITY—Identify by IEN - 1373 if you write the maker

Make YOUR OWN BELT CONVEYOR and drive it with a PAKAGE POWER UNIT

THE BEST POWER UNIT ON THE MARKET

If you plan to build your own belt conveyor using wood frames, tables or roller gravity—the annoying problem of calculating speeds, figuring proper size bearings, pulleys, shaft diameters, reducer torque, roller chain size, sprocket trim—can be eliminated by using an Island Pakage Power Unit . . . a scientifically engineered

SELF-CONTAINED BELT CONVEYOR DRIVE

Pakage Power Units are compact, portable and come completely assembled ready to be easily bolted to the chassis of the conveyor to be driven. Over 1000 Now in Regular Service. Get the facts on how these practical, multiple-use units can increase efficiency and lower costs.

FREE!

ISLAND EQUIPMENT CORP. Dept. 182
27-01 Bridge Plaza North
Long Island City 1, N. Y.

Sounds good to me. Send brochure on Pakage Power Units and various applications.

NAME _____
ADDRESS _____
CITY _____ STATE _____

NEWS NOTES—Continued

BREVITY—Identify by IEN - 1374 if you write the maker

PYROMETERS . . Schematic drawings show applications of radiation-type pyrometers

Minneapolis-Honeywell Regulator Co.
4456 Wayne Ave., Philadelphia 44, Pa.

Eight typical applications are illustrated in revised 28-page Catalog 5000 for the company's Radiamatic pyrometer. They range from temperature measurement of induction-heated billets for forging to that of a soaking-pit interior. There is a section on principle of the radiation pyrometer, a description of construction features, models, ranges.

BREVITY—Identify by IEN - 1375 if you write the maker

RECORD KEEPING . . For production control, the subject of 56-page book on methods and equipment

Remington Rand Inc.
315 Fourth Ave., Room 1618, New York 10, N. Y.

Engineering records, materials control, production planning and progress, machine load, small tool control are among the subjects described in new Publication X-1298. The book carries the title, "Production Control Systems and Procedures." It tells how to set up classification and numbering system for parts and materials, how to set up bills of materials.

BREVITY—Identify by IEN - 1376 if you write the maker

RECTIFYING . . Data book of 80 pages on selenium rectifier characteristics and circuits

Sarkes Tarzian Inc.
413-17 N. College Ave., Bloomington, Ind.

First section of 48 pages in new "Selenium Rectifier Handbook" describes radio-television-electronic units to 450 ma. together with tables of characteristics, voltage-regulation curves and typical circuits. Second section is on "Centre-Kooled" power rectifiers including types, ratings, dimensions. Third section is a replacement guide. The book is available on request to engineers, lists at 50 cents to others.

BREVITY—Identify by IEN - 1377 if you write the maker

ROT PROOFING . . Antibiotics for industry, booklet contains a list of application suggestions

Chas. Pfizer & Co.
628-32 Flushing Ave., Brooklyn 6, N. Y.

Textiles, plastics, leather, paints, food products are among the application possibilities suggested by new 8-page booklet, "Antibiotics for Industrial Application." Information is given on the reasons for these possibilities. Condensed characteristics are given for terramycin, penicillin, others.

BREVITY—Identify by IEN - 1378 if you write the maker

SHEARING . . Instruction folder tells how to use company's throatless hand shears

Beverly Shear Mfg. Co.
3002-5 W. 111th St., Chicago 43, Ill.

Lubrication, blade adjustment, making a cut, capacity, example of work are given in new 8-page pocket folder available on request. Title is "How to Use Your New Beverly." These instructions are given for the company's throatless shear. Other instructions cover its slitting shear, inside slotter, cable cutter, all lever operated.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1379 if you write the maker

TAC does what no other tool can do!

AT LAST! AN OPEN-END RATCHET WRENCH — the world's first true *universal* wrench. A patented design for connections on tubing, rods, piping, conduit, studs, etc. Sixty-four socket sizes from ⅛" to 4". Smallest effective ratcheting arc yet — 5° to 7½°. TAC will also do every job any ordinary ratchet wrench will do: one TAC set replaces literally dozens of single-purpose hand tools.

makers of advanced tools for industry

TAC

TAC is the registered trademark of

TUBING APPLIANCE CO.
7112 South Victoria • 18321 Anza Ave. • Los Angeles, Calif.

BREVITY—Identify by IEN - 1380 if you write the maker

Doing the unusual

HAS MADE ROSS the first name in INDUSTRIAL AIR PROCESSING

Through the scientific use of controlled air, ROSS engineers have provided speedier processing and more uniformly finished products in practically all industries. In the field of industrial drying, baking, curing, treating, conditioning, no other organization has had more experience or introduced as many new developments as ROSS.

Tell us the type of product you make. Ask for literature describing ROSS apparatus for your industry.

J. O. ROSS ENGINEERING CORPORATION
MANUFACTURERS OF AIR PROCESSING SYSTEMS
444 MADISON AVENUE NEW YORK 22, N. Y.

CHICAGO • DETROIT • BOSTON • LOS ANGELES • MONTREAL • LONDON

BREVITY—Identify by IEN - 1381 if you write the maker

No Noise
No Vibration
No V-Belt Drives

THE SWECO SEPARATOR

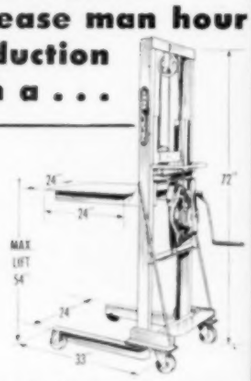
Single or multi-deck vibrating screen employing an entirely new screening motion ★ No substructure vibration ★ Greater production capacities ★ Handles wet or dry materials ★ Laboratory accurate classifying and dewatering up to 325 mesh ★ Only 3 moving parts ★ Guaranteed screen cloth life ★ Lower maintenance and power requirements.

Southwestern Engineering Company
SWECO
4800 SANTA FE AVE., LOS ANGELES 58, CALIF.
SAN FRANCISCO • PORTLAND • SEATTLE • VANCOUVER
PITTSBURGH • CHICAGO • NEW YORK • ATLANTA • WASHINGTON, D.C.

BREVITY—Identify by IEN - 1382 if you write the maker

Cut accidents
Increase man hour production
with a . . .

SHOPLIFTER



Handles heavy dies from storage rack to press. Lifts barrels, boxes, loads trucks, makes a handy adjustable shop table. Automatic brake holds load at any height.

Type D —Hand operated CAP. 500 lbs. $183.60
Type DE —Electric operated CAP. 500 lbs. $412.08
Type DX —Hand operated CAP. 1000 lbs. $349.52
Type DX —Hand operated CAP. 2000 lbs. $417.52
Floor lock included. Prices net. F.O.B. Chicago

ECONOMY ENGINEERING CO.
4502 W. Lake St., Chicago 24, Ill.

▼ BREVITY—identify by IEN - 1383 if you write the maker ▼

REED ENGINEERING COMPANY

1009 W. Fairview Carthage, Mo.

REED PLATE BENDING ROLLS

★ IN 18 MODELS, RANGING FROM 3 FT. x 14 GA. TO 8 FT. x ¼ IN. CAPACITY
★ RUGGED, ALL STEEL CONSTRUCTION
★ BUILT-IN, SILENT WORM GEAR DRIVE
★ DURABLE, SPECIAL BRONZE BEARING
★ POWER ADJUSTMENT AND AIR DROP END AVAILABLE ON MOST MODELS

WRITE FOR BULLETIN 76-B

✱ MODERN METALWORKING MACHINES
✱ BENDING ROLLS ✱ WELDING FIXTURES
✱ FORMING MACHINES ✱ TURNING ROLLS
✱ SPECIAL MACHINES & FIXTURES

▼ BREVITY—identify by IEN - 1384 if you write the maker ▼

INGENUITY
can solve any problem

if YOUR PROBLEM
involves the higher production of threaded parts.

HY-PRO TAPS
can help you to a solution

HY-PRO TOOL CO.
NEW BEDFORD, MASS. U. S. A.
Subsidiary of Continental Screw Co.

Order from your distributor or call the HY-PRO SALES ENGINEER

▼ BREVITY—identify by IEN - 1386 if you write the maker ▼

GAGE . . Electronic equipment reads angular position of rotating shaft

Source: ENGINEERING RESEARCH ASSOCIATES
1900 W. Minnehaha Ave., St. Paul W4, Minn.

Ask for Bulletin PX29536

Shaft Monitor is a new assembly of locating unit, as shown in the illustration, and an electronic converter unit with the required actuating and indicating or recording equipment. It will make as many as 20 readings per sec. for angular position of a shaft rotating at steady or intermittent movement and speed to 120 rpm. The equipment operates on 115-volt single-phase 60-cycle ac. Its output is a train of negative 30-volt pulses of 0.3 to 0.5 microsecond at 240 kc. The illustrated locator unit measures about 16 by 6 by 5¼ inches. It weighs 20 pounds. A converter for single-channel operation is about 7 by 9 by 19 in. and weighs 10½ pounds.

The locator assembly includes a rotor plate with a magnetic writing head, a magnetically-coated disc driven at a relatively constant speed by a 0.05-hp. synchronous motor, an erase solenoid, a permanent index track containing 500 index marks and a separate magnetic reading head mounted adjacent to the track. The shaft for which angular indications are to be provided couples directly to the shaft carrying the writing head so the two rotate together. Accuracy is within 0.09 degree.

▼ BREVITY—identify by IEN - 1387 if you write the maker ▼

WATER TREATING . . Purifier takes color, odor from drinking water

Source: SUNROC CO.
51 Pennell Road, Glen Riddle, Pa.

$82.50

Purifier SF-5 is a new cartridge-type unit designed by the company for use in a water-supply line ahead of its drinking fountain or for connection to any drinking-water outlet. It will deliver 30 gph. of water free from color, taste or odor without affecting the essential minerals which make the water naturally palatable.

The assembly measures 5 in. in diameter by 13 in. in overall height. It is made of brass, weighs 13 lb. and provides ¼-in. tube connections for the water line. The replaceable cartridge measures 3½ in. in diameter by 8 in. in height. It is made of stainless steel to enclose the filtering agent, trade named Sterilium. The water passes through this filtering material which provides the purifying action. Replacement cartridges list at $2.75 each.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—identify by IEN - 1388 if you write the maker ▼

NEW! 3 PHASE 60 CYCLE

DRY TYPE
AIR COOLED TRANSFORMERS

Less weight per KVA. Class "B" insulation, 80°C temperature rise. No oil nor other coolants. No maintenance nor frequent inspections. Available in 9 KVA through 500 KVA sizes. Write for catalog AC 186.

ACME ELECTRIC CORPORATION
242 WATER ST. CUBA, NEW YORK

Acme ACME Electric
TRANSFORMERS

▼ BREVITY—identify by IEN - 1389 if you write the maker ▼

Give 'em the BUM'S RUSH!

Don't let Dirt, Dust, and Grit spoil the working efficiency of your machinery and equipment. Rush 'em out of every crack and crevice with a CLEMENTS - CADILLAC blower-suction cleaner. Easy to use, economical. Ask your mill supply dealer.

Eligible under C.M.P. regulations.

SAVE
TIME • MONEY
PREVENT DAMAGE TO MACHINERY WITH THE . . .

Made in 5 models with attachments for every cleaning job.

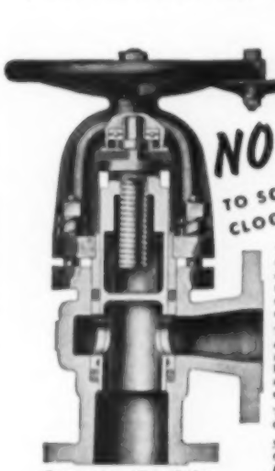
PORTABLE COMBINATION BLOWER-SUCTION CLEANER

CLEMENTS CADILLAC

CLEMENTS MFG. CO.
6620 S. NARRAGANSETT AVE., CHICAGO 38, ILL.

ASK YOUR MILL SUPPLY DEALER OR WRITE US FOR DATA

▼ BREVITY—identify by IEN - 1390 if you write the maker ▼



NO SEAT!
TO SCORE . . . WEAR . . . CLOG . . . AND LEAK

The Yarway Seadess Blow-Off Valves eliminate the commonest source of trouble and expense with ordinary blow-off valve operations.

The famous seadess principle first introduced nearly 40 years ago, has been constantly improved and adapted to meet modern service requirements.

There is a Yarway Blow-Off Valve for every pressure.

SEND FOR FREE BLOW-OFF VALVE BOOKLET. PLEASE STATE YOUR BOILER PRESSURES.

Cross section of Type "B" Seat-Jess Angle Valve, Flanged.

YARNALL-WARING COMPANY
122 Mermaid Ave., Phila.18, Pa.

YARWAY BLOW-OFF VALVES

▼ BREVITY—identify by IEN - 1391 if you write the maker ▼

Over 85% of the torque wrenches used in industry are

Sturtevant TORQUE WRENCHES
Read by Sight, Sound or Feel

- Permanently Accurate
- Practically Indestructible
- Faster—Easier to use
- Automatic Release
- All Capacities

in inch ounces
. . . inch pounds
. . . foot pounds
(All sizes from 0-6000 ft. lbs.)

Every manufacturer, design and production man should have this valuable data. Sent upon request.

P.A. STURTEVANT CO.
ADDISON QUALITY ILLINOIS

BREVITY—identify by IEN - 1392 if you write the maker

Because they wear longer . . . stand up better to the destructive effects of heat, abrasion, corrosion and chemical action, Wissco Metal Processing Belts have become the accepted standard for varied applications involving processing and heat treating.

They're your assurance of uninterrupted trouble-free production at a time when stoppages cannot be tolerated.

For additional information write or phone our nearest sales office.

EAST: Wickwire Spencer Steel Division, Clinton, Mass.
WEST: The Colorado Fuel & Iron Corporation, Denver, Colorado
PACIFIC COAST: The California Wire Cloth Corporation, Oakland, California

WISSCO BELTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION
CFI

BREVITY—identify by IEN - 1393 if you write the maker

take your
PIC
for
original
equipment

THE STRONGER, 100% ZINC PLATED STEEL UNION

Bright . . . good looking . . . sturdy — this 150 lb. steel union appeals especially to makers of original equipment. Uniformly flat sided ends of heavy steel pipe coupling stock make installation fast and easy with open end or pipe wrenches. Special wedge-type bronze seat provides a tight, safe closure. 100% zinc plating—even on threads for complete rust protection. The sensible cost makes a Pic an all-round good buy — it's less than a galvanized — no more than a black malleable union!

Write for FREE SAMPLES

DART UNION COMPANY
130 Thurbers Avenue, Providence 5, R. I.

BREVITY—identify by IEN - 1394 if you write the maker

IF YOU WALK ON IT
IT CALLS FOR
OPEN STEEL FLOORING

SAFE FOOTING
AT EVERY STEP

Build safe, dependable walking surfaces in your new or present industrial plant—indoors and outdoors—with Open Steel Flooring . . . the versatile, durable flooring of strength, safety, ventilation and light.

Be sure to investigate Open Steel Flooring and the new Specifications as described and illustrated in our new 16-page Idea-Book, "Versatile." Your free copy is ready to mail on request. Write for it today.

OPEN STEEL FLOORING INSTITUTE, INC.
2311 First National Bank Building
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MEMBERS
These manufacturers assure top quality engineered grating
WALTER BATES CO., INC. Joliet, Illinois
THE TRI-LOK COMPANY Pittsburgh, Pa.
BLAW-KNOX COMPANY Pittsburgh, Pa.
HENDRICK MANUFACTURING CO. Carbondale, Pa.
IRVING SUBWAY GRATING CO., INC. Long Island City, N. Y.
STANDARD STEEL SPRING CO. Gary, Indiana

NEWS NOTES—Concluded

BREVITY—identify by IEN - 1395 if you write the maker

STEEL . . How much is enough? reprint bulletin presents the factual answer

American Iron and Steel Institute
350 Fifth Ave., New York 1, N. Y.

"Advertorial" recently published is offered in 8-page bulletin form under the title, "How Much Steel Is Enough?" It gives figures on production, tells what is involved in a production increase, other materials employed, world production, present situation.

BREVITY—identify by IEN - 1396 if you write the maker

STEELS . . Machining instructions for nickel-alloy steels in technical booklet

International Nickel Co.
67 Wall St., Dept. EZ, New York 5, N. Y.

Company now offers on request a copy of its 24-page bulletin, "Machining of Nickel Alloy Steels", which up to now has been limited in its distribution. Copyright date is 1946. The bulletin emphasizes importance of microstructure to satisfactory machining, suggests tool form, cutting speed, feed for optimum combination. Information covers turning, drilling, threading, milling, drawing.

BREVITY—identify by IEN - 1397 if you write the maker

TABLET MAKING . . Maintenance suggestions in booklet on punches and dies for tablet machines

F. J. Stokes Machine Co.
5956 Tabor Road, Philadelphia 20, Pa.

New 16-page Booklet 610 carries the title, "How to Save Money on Punches and Dies." It applies to tablet-compressing punches and dies, emphasizes the importance of regular care and cleaning, storage, what to do about wear, lubrication in service, safe load pressures. It includes a list of do's and don'ts for rotary and single punches and dies.

BREVITY—identify by IEN - 1398 if you write the maker

WEIGHING . . Sound motion picture shows how to operate a laboratory balance

University of Illinois
119-A Gregory Hall, Urbana, Ill.

Fisher Scientific Company and the University cooperated in producing new 16-mm. sound film, "The Analytical Balance and Its Uses," intended particularly for group instruction in operating technique. Topics include construction, theory of balance swing, determination of rest points, weighing, special types of balance. You can rent the film for $4, buy it for $60. Running time is 13 minutes.

BREVITY—identify by IEN - 1399 if you write the maker

WELDING . . Prize contest for papers on resistance welding design or use

Resistance Welders Mfrs. Association
1902 Arch St., Philadelphia 3, Pa.

Closing date is July 31 for the 1952 prize contest on resistance welding. Subjects can include design, application, research. First prize is $750, second prize is $500, others range from $300 to $200. Minimum is 2,500 words. Ask for a copy of the contest rules, available upon request.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 1400 if you write the maker

High Production Milling
Saves Labor...
Cuts Costs

For *high production with precision*—put the work on Kent-Owens Milling Machines! They're designed for rapid, easy set-up and operation. Rugged . . . with twin-post head mounting that assures balanced load—no chattering. Practical features throughout to help you *produce more . . . save labor* . . . and *reduce costs!* Write for bulletin. Kent-Owens Machine Co., Toledo, Ohio.

No. 2-20 Milling Machine
Table, 42" x 12"
Table travel, 20"

KENT-OWENS
Milling Machines

BREVITY—identify by IEN - 1401 if you write the maker

CARPETING!
IN A
FACTORY?

New Mulsomastic Floor in shipping room of the lithographing plant of the Piedmont Label Co. Bedford, Va.

Thick-pile carpeting isn't a practical answer to making factory floors easy on worker's feet. But in the Piedmont Label Company, Inc., when a smooth resilient coating of Tremco Mulsomastic* was put down over a hard, broken cement floor, the foot-relief for employees was so marked Master Mechanic H. J. Faribault commented, "It's like walking on a carpet."

Mulsomastic is a mastic surfacing that can be quickly put down over old wood or concrete floors by independent contractors or your own crew, under Tremco direction.

It makes a warm, dry, resilient floor—easier to work on—more healthful. It stands up under heavy material-handling trucking. Paint covers and stays put for easy cleaning and good appearance.

Tremco Man Francis Lee planned the job with Vice President J. T. Davison and Master Mechanic Faribault. He is one of a large staff of Tremco field men prepared by special training and experience to advise the right answer to many building maintenance problems. CALL IN a TREMCO MAN. No obligation. The Tremco Manufacturing Company, Cleveland, Ohio, and The Tremco Manufacturing Company (Canada) Ltd., Toronto.

*Mulsomastic is a reg. trade name.

UM 1013

THE TREMCO MANUFACTURING CO.
CLEVELAND, OHIO
Products and Methods for Building Maintenance.

BREVITY—identify by IEN - 1402 if you write the maker

PRECISION WELDING WITH
RAYTHEON WELDPOWER* UNITS
Cuts Rejects, Eliminates Expensive Solder

"Soldering and other assembly defects sometimes spoiled up to 80% of our production," says J. H. Winn Sons, Winchester, Mass. *"Changing to precision welding with Raytheon Weldpower* Units cut out completely all soldering rejects and at the same time eliminated the need for scarce and costly solder."*

Ask us to show you how Raytheon Condenser Weldpower can improve production of small parts involving assembly of non-ferrous or dissimilar metals. Send sample parts and details . . . or write for complete information.

*Reg. U. S. Pat. Off.

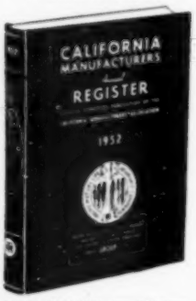
Address
Dept. IN-2

Raytheon Condenser Weldpower Control Units are available in three sizes and with appropriate Weldpower Heads.

RAYTHEON
RAYTHEON MANUFACTURING COMPANY
Equipment Sales Division, Waltham 54, Mass.
DISTRICT OFFICES: Boston • New York • Cleveland
Chicago • New Orleans • Los Angeles • San Francisco • Seattle

BREVITY—identify by IEN - 1403 if you write the maker

Only Guide to California's Huge, Fast Growing Market
CALIFORNIA MANUFACTURERS
($25) REGISTER ($25)
DISTRIBUTION STARTING FEBRUARY 15, 1952
5th ANNUAL EDITION



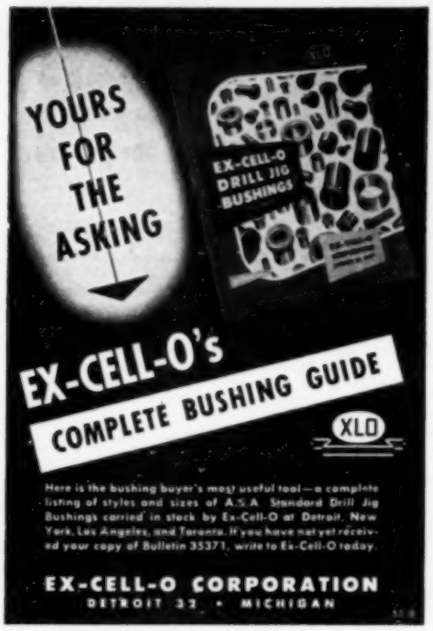
8"x11", 1½" thick, over 600 pages

ACCURATE — Listings secured by personal contact.

COMPLETE — Company and executives' names, address, products, number of employees and capitalization for 11,000 bona fide California manufacturers. A bound book arranged in 4 Sections — ALPHABETICAL, GEOGRAPHICAL, PRODUCTS and BRAND NAME.

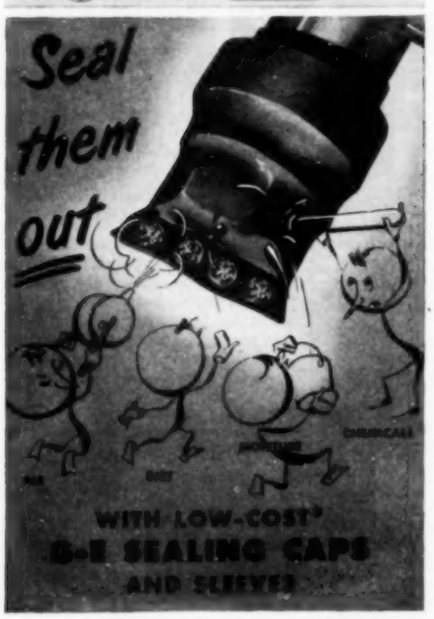
TIMES-MIRROR PRESS
114 So. Broadway • Los Angeles 12, Calif.
• Write to Publishers •

▼ BREVITY—identify by IEN - 1404 if you write the maker ▼



▼ BREVITY—identify by IEN - 1405 if you write the maker ▼

FABRICATED PARTS FOR INDUSTRY'S TOUGHEST JOBS



Here's the quick, easy, economical way to protect tubing, valves and wires from contamination and mishandling—use General Electric sealing caps and sleeves. These low-cost plastics seals safeguard small parts from dirt, air, moisture, chemicals and paint during fabricating, shipping and storage . . . say "Hands off!" to careless fingers.

G-E sealing caps and sleeves are easy to apply. Simply expand them in the dilating solution and slip them on; they quickly shrink to a tight fit. Tough and durable, yet easy to remove, they have excellent electrical properties, resist heat, moisture and chemicals, and are readily adaptable to assembly-line procedures. Widely used in the refrigerator industry to protect small tubing, they also serve as insulation for electrical parts and as protection for valves.

*For less than 1¢ each in most sizes.

G.E.'s complete molding service offers you 60 years' experience

G-E mycalex offers a unique combination of properties, including high dielectric strength, dimensional stability and heat resistance up to 700 F.

G-E silicone rubber parts are ideal for electrical applications. They offer low moisture absorption, excellent heat resistance and good dielectric strength.

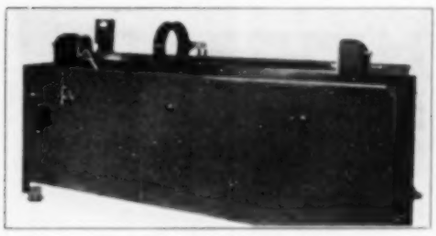
For more information, write to General Electric Company, Section L-2, Chemical Division, Pittsfield, Massachusetts.

GENERAL ELECTRIC

▼ BREVITY—identify by IEN - 1407 if you write the maker ▼

TESTING . . Magnetic equipment exposes flaws in ferrous metal work

Source: MAGNAFLUX CORP.
5914 Northwest Highway, Chicago 31, Ill.



Type ARQ provides 96 in. capacity

New design is announced by the company to extend over all of the equipment it has developed during the past 21 years for non-destructive magnetic-particle inspection of work in process and of equipment in reserve or inactive duty. The re-engineered line is designed particularly to provide standardized machines which the company can manufacture on a production basis as compared to previous "special" units.

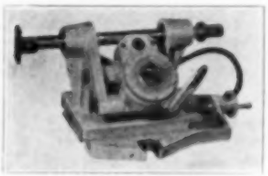
In most cases the new assemblies are larger than the old ones without change in price and can handle a greater diversity of parts. Operation is on either 220 or 440-volt 60-cycle ac. or on dc. Literature is available covering both stationary and portable assemblies.

Operating principle remains the same as in the initial design. The work is magnetized and then flowed with fluorescent or wet Magnaflux ferrous particles to expose imperfections by the patterns which the particles assume. The equipment is available to apply both circular and longitudinal magnetization simultaneously while the inspection material is being flowed over the work to expose all defects clearly.

▼ BREVITY—identify by IEN - 1408 if you write the maker ▼

GAGE . . Optical instrument to precisely measure cam contours

Source: F. T. GRISWOLD MFG. CO.
303-7 Lancaster Ave., Wayne 5, Pa.



Slide base for set up

Cam Rise No. 4200 is a new assembly in the company's line of optical gages and dividing heads. It mounts on a suitable table so its horizontal bar can be brought into contact with the cam to be measured. This bar is normally held forward, to the left, by a weight. It is equipped with a shoe at its left-hand end to duplicate the shoe with which the cam is to operate. It is caused to move axially as the cam is rotated on centers.

This movement carries with it a precise linear scale engraved on the bar from 0 to 3 in. in 0.050-in. divisions. A microscope enlarges these divisions and, by means of a rotary dial on the microscope, each can be divided so that direct readings are made to 0.005 inch. Movements one-half that large can be estimated accurately.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—identify by IEN - 1409 if you write the maker ▼

SET THIS METER FOR BATCH MEASUREMENT OF LIQUIDS

NIAGARA Electricontact METERS
Accurate . . . Automatic

Niagara Meters offer the simplest method of measuring commercial liquids quickly, accurately. Obsolete tanks and gauge sticks are replaced by Niagara volumetric meters. An electric contact unit provides automatic shut-off for batch measurements.

Engineered for a wide variety of industrial uses, Niagara Electricontact Meters are available in several models, including stainless steel for metering chemicals. It will pay you to investigate dependable Niagara Meters.

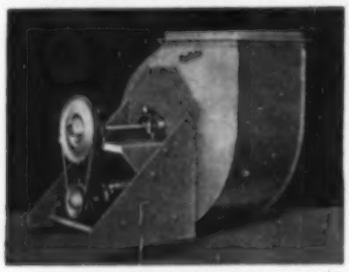
SEND COUPON FOR COMPLETE DETAILS

I would like complete information sent me on how Niagara Electricontact Meters increase processing accuracy for:
Liquid _____
Temp _____ °F. Pressure _____ p.s.i.
Flow rate _____ g.p.m.
Maximum batch _____
Company _____
By _____
Address _____

BUFFALO METER CO.
2929 MAIN STREET BUFFALO, N. Y.

▼ BREVITY—identify by IEN - 1410 if you write the maker ▼

The *Inexpensive* Way To Get RELIABLE VENTILATION!



WRITE FOR BULLETIN 3720 ON THESE POPULAR FANS—

"Buffalo" BELTED VENT SETS are lightweight, compact non-overloading fans, available in sizes from 180 to 20,000 c. f. m. at ⅛" static. Simple to install, high in efficiency, quiet running. Available with hood for outdoor installation. Write for facts NOW!

BUFFALO FORGE COMPANY
496 Broadway Buffalo, New York
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
Branch Offices in all Principal Cities

"Buffalo" **BELTED VENT SETS**

▼ BREVITY—identify by IEN - 1411 if you write the maker ▼

FAST, NEW METHOD FOR SANDING FILLER ON CASTINGS

Sundstrand *Straight-Line Action* Air Sander saves time...gives more uniform finish!

Here's the proven, *better* way to sand filler on castings. New Sundstrand Single Pad Air Sander gives a fast cut . . . quickly, evenly removes high spots . . . and because of its compact size and *straight-line action* gets into close quarters, up next to edges and moldings. Results in exceptionally fine finish . . . ideal for many other sanding operations on wood, metal, or plastics.

SUNDSTRAND AIR SANDERS
SUNDSTRAND MACHINE TOOL CO.
PNEUMATIC DIVISION, ROCKFORD, ILLINOIS

▼ BREVITY—identify by IEN - 1412 if you write the maker ▼

FOR YOUR NEW HANDS...

Starrett TRAINING AIDS

Available at slight cost, or in many cases, at no charge, these Starrett Training Aids are just what you need for your shop classes. Invaluable as a supplement to any shop course or to give students a quick briefing in precision measuring tools and methods. Write for complete information. Ask for Starrett Training Aids Folder N.

Starrett
THE L. S. STARRETT COMPANY ATHOL, MASS. U.S.A.
BUY THROUGH YOUR DISTRIBUTOR

BREVITY—Identify by IEN - 1413 if you write the maker

"Grip-Master," the original screwless drill press vise is available in four sizes, 3", 4", 6", 8" jaw widths.

● The instantaneous and effortless setting, and guaranteed positive locking of the amazing "Grip-Master" *Screwless* Vise add up to new savings on hundreds of drill-press and production line operations. "Grip-Master" also makes an ideal base-structure for jigs and fixtures. Hammer blows will not budge its tenacious grip obtained by an effortless press on the locking-lever. Built-in parallels level work instantly. Write today for full information and prices on the "Grip-Master" line, or ask your Dealer for a demonstration.

NATIONAL MACHINE TOOL COMPANY
DEPT. 172-B RACINE, WISCONSIN

BREVITY—Identify by IEN - 1414 if you write the maker

"We've saved 30% in handling costs with the Stanley Steel Strapping System"

. . . Mr. Leonard L. Place, Shipping Mgr.
Continental Screw Co.,
New Bedford, Mass.
tells the
STANLEY MAN

And this is but one of hundreds of success stories made possible with the Stanley Steel Strapping System. Just another example of how the Stanley Steel Strapping System and modern shipping methods can save man-hours—materials—money—shipping almost any product.

The complete System includes tools, reels, seals, strapping and accessories—everything needed for your application.

STEEL STRAPPING AND CAR BANDING SYSTEMS

STANLEY
Reg. U.S. Pat. Off.

Hardware • Tools • Electric Tools • Steel Strapping • Steel

The Stanley Works, Steel Strapping Division,
204 Lake St., New Britain, Conn.
Branch Offices or Representatives in 32 principal cities.

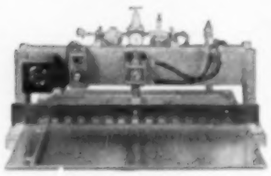
Please ask your Representative to call and explain the advantages of the Stanley Steel Strapping System to me.

Name
Firm Name
Street
City and State

BREVITY—Identify by IEN - 1416 if you write the maker

PACKAGING . . Heat sealing machine for large bags, barriers, pouches

Source: PACK-RITE MACHINES CORP.
712-16 W. Wisconsin Ave., Milwaukee 1, Wis.



Mounts on a bench

Jumbo Jaw is a new 38-in. machine for manufacture and final closing of large bags, barriers, pouches, liners, employing kraft and scrim-backed laminates as required in Military Specification packaging. The machine connects to a shop air line for pressure from 60 to 100 pounds. It is set by an air regulator for pressure on the sealing jaws between 19 and 31½ lb per sq. in. over the 38-in. length. Heat is provided by connection to a 110-volt circuit to two brass-sheathed elements in each bar. Total input is 1,500 watts. Temperature is controlled by a thermostat maximum to 550 deg. F.

Control centers at a foot switch to actuate a solenoid air operating valve. This valve acts to close the jaws, to hold for a timed interval and then to open.

BREVITY—Identify by IEN - 1417 if you write the maker

TRUCK . . Hand lift design for pallets and also for load skids

Source: YALE & TOWNE MFG. CO.
11002 Roosevelt Blvd., Philadelphia 15, Pa.

Cam locates the two heights

New design of the company's pallet truck includes a superstructure to make the truck suitable for handling 7 or 12-in. skids as well as single or double-faced pallets. The truck is available with mechanical or hydraulic lift. The superstructure is adjustable for either the 7 or 12-in. skid heights in lowered position. It can be removed when the truck is to be employed in carrying pallets.

BREVITY—Identify by IEN - 1418 if you write the maker

RECTIFYING . . Useful information on metallic rectifiers in new 16-page booklet

Radio Receptor Co.
251 W. 19th St., 5th Floor, New York 11, N. Y.

Technical article by Julian Loebenstein has been reprinted by the company in booklet form under the title, "Metallic Rectifier Design and Application". A copy will be sent you on request. It describes characteristics, circuits and selection factors, voltage and current relationships, relative advantages of selenium, copper-oxide, magnesium-copper sulphide rectifiers and their characteristics.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1419 if you write the maker

with

DILLON DYNA-SWITCH

When load limit is exceeded, Dyna-Switch trips a sensitive micro-switch which may be connected to a warning bell or light. If Dyna-Switch is connected into the motor, the overload automatically cuts motor out, and load must be returned to floor and surplus weight removed before pickup can be completed.

Top working range is 10,000 lbs. Set at factory for any desired cutout point, but can also be re-set in the field if working conditions change. Low in cost—always on guard. Write or wire today for illustrated bulletin.

W. C. DILLON & CO., INC.
1421 K SQ. CIRCLE AVENUE, FOREST PARK, ILLINOIS

BREVITY—Identify by IEN - 1420 if you write the maker

TAP-LOK INSERTS

strengthen power tools—Chain Saws, for instance

This magnesium die cast housing is part of the Chain Saw manufactured by Homelite Corporation. Such tools must be strong in every part, to withstand rigorous use.

To strengthen the tapped threads indicated by arrows, Homelite uses Tap-Lok Inserts. They report that the Insert not only provides a dependable non-stripping fastening, but also acts as a lock on the screw, preventing it from vibrating loose during use.

The unique self-tapping feature of this hardened steel bushing also substantially reduces assembly costs by eliminating a separate tapping operation.

Write today for samples and descriptive folder.

Also manufacturers of Groov-Pins — for positive locking press fit.

GROOV-PIN CORPORATION
1127 Hendricks Causeway, Ridgefield, N. J.

BREVITY—Identify by IEN - 1421 if you write the maker

AETNA

is the Single, Logical Source for all your PLYWOOD needs

INDUSTRIES USING AETNA PLYWOOD

AVIATION

TRANSPORTATION

TOOL

CHEMICAL

ELECTRICAL

Aetna has a large stock of Borden Glues, Monsanto Sealers and Bleaches to meet your most exacting needs.

Aetna provides plywood for every industrial use—by the carload or by the panel—depending on your requirements. Aetna supplies plywood for fabrication, from small toy parts to important members of airplanes . . . for building, from concrete forms to exteriors.

Here are 5 reasons why Aetna is the single, most logical source for all your plywood needs:

1. **LARGE STOCK** on hand, including sizes cut to your specifications.
2. **OVER 40 SPECIES**—Fir, Gum, Birch, Walnut, etc. in stock $\frac{1}{16}$" to 3" thick, 36" x 48" to 48" x 192".
3. **MILL SHIPMENTS** to your exact requirements.
4. **QUICK DELIVERIES** from 4 strategically located warehouses—completely stocked.
5. **ENGINEERING STAFF** to give you solid technical help in the form of performance data, design calculations, industrial facts.

That's it . . . huge stock, wide range, quick service and technical help at no extra cost.

It will pay you to investigate Aetna Service.

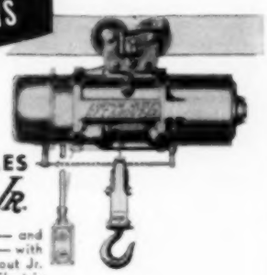
AETNA PLYWOOD & VENEER CO.
1724 N. Elston Ave., Chicago 22, Ill.
ARmitage 6-7100

Branch Warehouses: Grand Rapids 7; Indianapolis 2; Rockford

AETNA—PLYWOOD for every purpose

BREVITY—identify by IEN - 1423 if you write the maker

SOLVES MANPOWER PROBLEMS



SHEPARD NILES

LIFT ABOUT Jr.

One man replaces many — and moves more goods faster — with the Shepard Niles Lift About Jr. This lightweight, low cost Electric Hoist frees valuable floor space, puts waste ceiling area to work.

Loads of 500 or 1,000 lbs. are handled easily by an older man, woman or youth.

Learn how the Lift About Jr. fits into your production picture by calling in the Shepard Niles representative. He'll make sure you get the right capacity and controls for your handling job. Write today for Bulletin 127 or 171 and ask to have a representative stop by.

Specialists in loads through-the-air since 1903.

SHEPARD NILES
CRANE AND HOIST CORPORATION

1010 SCHUYLER AVE., MONTOUR FALLS, N. Y.

BREVITY—identify by IEN - 1424 if you write the maker

TRUCKS AND TRAILERS MOVE FASTER, EASIER ON NEW WHEELS BY

ELECTRIC

Modernize baggage-trucks, industrial trailers, floor trucks, mail carts and other portable equipment with new ELECTRIC wheels **for faster, easier handling.** There is an ELECTRIC wheel for every job.

Our 65 years of engineering "know-how" assures you of top performance from ELECTRIC equipment.

ELECTRIC wheels are furnished with or without roller bearings to fit your own axles or complete with axles—steel tires, molded-on-tires, or pneumatic tires. All types are available in a full range of sizes.

Our experienced engineers are always at your service.

WRITE FOR COMPLETE INFORMATION

ELECTRIC WHEEL CO.

2814 SPRUCE · QUINCY, ILLINOIS

BREVITY—identify by IEN - 1425 if you write the maker

LEATHER BELTING CALCULATORS

Accurate and extremely easy to use, these two leather belting calculators help you determine proper belt length and width . . . quickly and readily for any given installation. They eliminate need for any other tables or references. Write J. E. Rhoads & Sons, 35 N. Sixth St., Philadelphia 6, Pa.

250th ANNIVERSARY YEAR

J. E. RHOADS & SONS
PHILADELPHIA · NEW YORK
CHICAGO · ATLANTA

BREVITY—identify by IEN - 1426 if you write the maker

GAGE . . Electronic comparator reads over and under a master dimension

Source: GRAHAM-MINTEL INSTRUMENT CO.
733-37 Carnegie Ave., Cleveland 15, Ohio

Dependably supersensitive

Variation in work height to plus or minus 0.0002 or 0.00002 in. can be read on this new Micro-Ac gage depending on the setting of a selector switch. It consists of a gage head mounted in sliding assembly on a stand and an amplifier indicator assembly with a meter reading in 20 graduations to "2" on each side of zero. The head adjusts for work measuring ⅞ to 14¾ in. in height above the base. It is fitted with a replaceable contact tip made of carbide, steel, sapphire or a diamond as specified. This tip can be lifted 0.003 in. to assist in positioning the work by operating a pushbutton connecting through a flexible shaft at the front of the stand.

Contact pressure is 4 ounces. A 5-ft. length of cable connects between the head and the amplifier housing which, in turn, connects to a 110-volt ac. power source. The amplifier compensates for line-voltage variation between 95 and 125 volts. Overall dimensions of housing are 9 by 7 by 7 inches.

BREVITY—identify by IEN - 1427 if you write the maker

BUILDING . . Translucent sheet for windows, skylights, partitions

Source: ALSYNITE CO. OF AMERICA
4668-72 De Soto St., Dept. 26, San Diego 9, Calif.

Takes out sun glare

Flat plastic sheet reinforced with fiber glass has been added to the company's previously developed corrugated sheet. The new material is designed for use in windows, skylights, partitions. Standard length is from 8 to 12 feet. Width ranges from 26 to 42 inches. Standard colors are opal, rose, aqua and maize.

The sheet is fire resistant and will not shatter, crack, craze, buckle, warp, sag, rot or mildew. It is not affected by humidity, salt water, sunlight, heat or cold. It is resistant to attack by mild acids. It can be worked with ordinary tools and can be secured in place with nails, bolts, screws or mastic. Curved as well as flat sheet can be specified in standard lengths and radii. Weight is about 8 oz. per square foot.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 1428 if you write the maker

BREVITY—identify by IEN - 1429 if you write the maker

OTC

REPLACE 29 SIZES WITH THESE TWO

NEW GIANT ALLOY adjustable wrenches

THINNER-LIGHTER-STRONGER

Until now 29 wrenches have been needed to handle the jobs done by these two new alloy adjustable wrenches. They are THIN—to get at the work easily. Strong—designed for added strength at leverage points. Light—to make job servicing easy. Economical—saves time, tools and materials. Large jobs become simple ones.

Giant alloy wrench No. OA-24 is 24" long, ⅞" thick, weighs only 10 lbs. and adjusts to 13 standard sizes from 1⅛" to 2⅞". OA-16 is 15" long, 1⅛" thick, weighs only 22 lbs. and adjusts to 16 standard sizes from 2 15/16" to 4½".

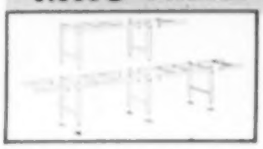
ANOTHER EXAMPLE OF ENGINEERING THAT MAKES OTC TOOLS OUTSTANDING

OWATONNA TOOL CO.

371 CEDAR ST., OWATONNA, MINNESOTA

BREVITY—identify by IEN - 1430 if you write the maker

Keep your Storage Area Flexible with MHS COLLAPSIBLE PALLET RACKS



Method of assembling a bank of MHS Collapsible Pallet Storage Racks

You can set up MHS Collapsible Pallet Storage Racks easily and quickly anywhere in the plant or warehouse. It takes only two men and they needn't be skilled.

You can add any number of units longitudinally and one or more tiers vertically at any time.

You can move these racks from place to place without damage. They never become obsolete.

Write for prices and specifications.

Mechanical Handling *Systems Inc.*

4605 NANCY AVE. · DETROIT 12, MICH.

Offices in Principal Cities

In Canada: Canadian Mechanical Handling Systems, Ltd.

BREVITY—identify by IEN - 1431 if you write the maker

Aeroquip

FLEXIBLE HOSE LINES CUT COSTS

The "Aeroquip Idea" saves time, saves money, reduces inventory. To make your own Hose Lines, simply cut bulk hose to the required length and attach an Aeroquip reusable fitting.

AEROQUIP CORPORATION

JACKSON, MICHIGAN

FLEXIBLE HOSE LINES • DETACHABLE, REUSABLE FITTINGS • SELF-SEALING COUPLINGS • BREAKAWAY COUPLINGS • HYDRAULISCOPE

AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A. AND ABROAD

BREVITY—identify by IEN - 1432 if you write the maker

LANSING, MICHIGAN **LANSING CO.** LANCO MATERIAL HANDLING EQUIPMENT

BREVITY—identify by IEN - 1433 if you write the maker

WILL YOUR PLANT STAND A WHITE GLOVE INSPECTION ?

Model 218

This idea may sound far fetched — but it's straight facts that the clean plant, shop or office will have the best chance of landing defense orders.

Doyle Vac-Its are vital to your defense programs. Write Doyle today. No obligation.

Doyle VACUUM CLEANER CO.

2335 Stevens St., S. W. Grand Rapids 7, Mich.

BREVITY—identify by IEN - 1434 if you write the maker

Stop wasting money!

Protect your investment in coated abrasives

A new booklet from Armour's Coated Abrasives Division tells you how to stop losses—in time and money—from improperly stored coated abrasives. Clogging, filling, cracking, loss of grains—these are some of the things proper storage can prevent. Send for free copy of "How to Store Coated Abrasives."

mail this coupon today

Please send booklet "How to Store Coated Abrasives."

Name _____

Company _____

Address _____

City _____ Zone _____ State _____

ARMOUR *Coated Abrasives*

Armour and Company • North Benton Road • Alliance, Ohio

BREVITY—identify by IEN - 1435 if you write the maker

WOOD WORKING . . Chain saw, 9 hp. engine and 2 to 7 ft. guide rail

Source: HENRY DISSTON & SONS INC.
49 Tacony St., Philadelphia 35, Pa.

List is $480 with 2 foot rail

Type DA-211 Intermediate is a new engine-driven chain saw that knocks down into two parts, each weighing about 35 lb., and reassembles in about 10 seconds. The saw can be operated by one man or by two when a detachable handle is added at the outer end of the rail.

Operator grips at the power end are equipped with vibration-absorbing rubber. The engine is a two-cylinder Mercury unit with twin exhausts, reed valves, cooling fan, air filter, forward intake baffle, float-type carburetor and a self-rewinding starting cable. An automatic oiler employing a piston-type pump and needle control valve feeds oil directly into the rail slot. The chain blade is available in the company's chisel-type or leader-type cutting design.

BREVITY—identify by IEN - 1436 if you write the maker

FASTENING . . Flush self-closing latch for use on heavy duty doors and panels

Source: HARTWELL CO.
9033-37 Venice Blvd., Los Angeles 34, Calif.

Husky for tough service

Access panels, inspection doors on heavy equipment can be held closed by this new Model H-5150 flush latch. It can be released to open by direct pressure on a trigger that is sufficiently large for movement by an operator wearing gloves.

The assembly includes a bolt employing a spring-loaded button that permits variation in closure contact and compensates for misalignment. Construction is in stainless steel, coated cold-rolled steel, or aluminum in a range of trigger and bolt off-set combinations. The new design is an addition to the Type H-4000 previously described IEN-5601-51.

BREVITY—identify by IEN - 1437 if you write the maker

PLANT SAFETY . . Booklet for employees stresses safety points in their own language

Magnolia Petroleum Co.
1309-13 Florida St., Beaumont, Texas

Informal treatment is a feature of new 68-page pocket booklet issued to refinery employees to acquaint them with safe practices. Its title, "You Bet Your Life," is carried out by sketches and concise statements on topics such as general safety, chemicals, electricity, tools, ladders, housekeeping, protective equipment, fire fighting, first aid.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 1438 if you write the maker

DON'T SCRAP IT!

LET "GLOVCO" RECONDITION IT
(LEATHER OR FABRIC)

DUST COLLECTOR BAGS • CONVEYOR BELTING
TARPAULINS • DROP CLOTHS • FILTER PADS

At a mere fraction the cost of replacement, we clean and professionally repair these and many other items, restoring them to new usefulness. Our pick-up and delivery plan in most industrial areas eliminates mechanical difficulties making this reconditioning plan work smoothly and to your complete advantage.

Our work glove reconditioning plan includes: pick-up, cleaning and sterilizing, repairing, reshaping, pairing, packaging and delivery. Users of the service record savings up to 49% in work glove costs. We will be glad to demonstrate this service at no cost to you. Representatives in all industrial areas.

U. S. INDUSTRIAL GLOVE CORP.
9354 Roselawn Ave., Detroit 4, Mich.

BREVITY—identify by IEN - 1439 if you write the maker

Cutting Oils causing Skin Irritations ?

add SYLPHO-NATHOL *right away!*

- **Reduce Skin Infections**—Sylpho-Nathol, the powerful, economical disinfectant counteracts and kills harmful germs in cutting oils.
- **Reduce Wasted Man Hours**—Stop the painful skin eruptions and you stop the man hour waste.
- **Raise Plant Efficiency**—Just add 1% of Sylpho-Nathol to your cutting oil. *And* use Sylpho-Nathol around the plant, too—in tubs, sinks, lavatories.
- **Raise Plant Morale**—Employees work better when they know this disinfectant is in the cutting oil to protect them.

TRY IT ABSOLUTELY FREE!
Write today, for a generous free sample of Sylpho-Nathol. Test it in your own plant, free of charge! Write

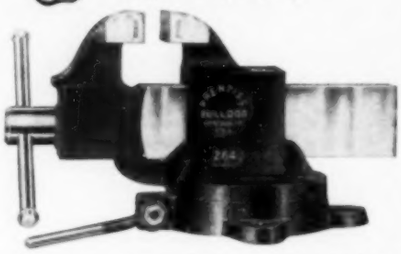
Sylpho-Nathol Company
249 Oliver Building
Boston 9, Mass.

BREVITY—identify by IEN - 1440 if you write the maker

PRENTISS

"BULL DOG" VISES

Backed by 80 years of time-proven acceptance by industry.



MACHINISTS — TOP SWIVEL JAW — COMBINATION PIPE HINGE PIPE — WOODWORKERS' — UTILITY

Renewable steel jaws that cannot work loose, swivel base with a positive lock plus other features give you vises that will stand the most severe tests. Send for THE NEW PRENTISS CATALOGUE TODAY.

PRENTISS VISE DIVISION
OF THE CHARLES PARKER CO., MERIDEN, CONN., U. S. A.

BREVITY—identify by IEN - 1441 if you write the maker

FOR VENTILATION FUME AND DUST CONTROL AIR CONDITIONING

FLEXAUST

SPIRAL-REINFORCED HOSE LIGHT, STRONG AND VERY FLEXIBLE

Flexaust is of proved suitability for a wide variety of suction and pressure uses in ventilation, fume and dust control, air conditioning.

EXTREMELY EASY TO INSTALL — EFFICIENT AND ECONOMICAL IN USE

SIZES: 1¼" to 28" dia.
Various Flexaust types, accessories, and other hose types also available:

BLOFLEX	PORTVENT
Non-reinforced collapsible hose	Ring-reinforced retractable hose

Write for full descriptive data and prices

AMERICAN VENTILATING HOSE CO.
Dept. IE-2, 100 Park Ave., New York 17, N. Y.
Plant: Amesbury, Mass.

▼ BREVITY—Identify by IEN - 1442 if you write the maker ▼

AIR-MITE

AIR ARBOR PRESSES

(AIR OR SPRING RETURN)

Completely Flexible

AIR-MITE now supplies solid steel upright columns in any lengths required to give you these important flexibility features:

1. **Normal ram clearance of 0" to 6" may be increased to any clearance required for special application.**
2. **Supplementary or replacement cylinders with any ram stroke required are available for quick, easy mounting on same brackets.**
3. **Rapid socket wrench adjustment cylinder bracket swivels for perfect alignment with work.**

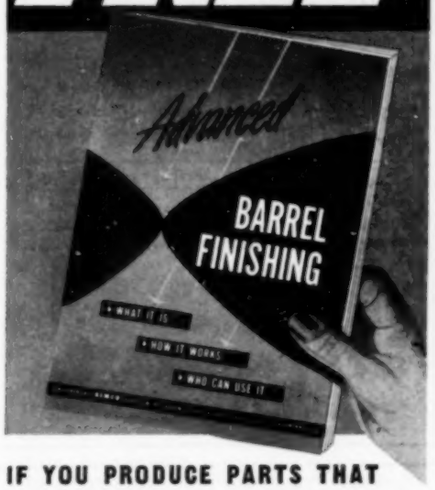
Presses are available in ¼, ½, ¾ and 1 ton capacities—for staking, riveting, marking, punching and similar operations.

Write for complete catalog of Air-Arbor Presses and single and double acting Air Cylinders.

AIR-MITE
4417-L West Carroll Ave.
Chicago 24, Ill.

▼ BREVITY—Identify by IEN - 1443 if you write the maker ▼

FREE



IF YOU PRODUCE PARTS THAT REQUIRE FINISHING OF ANY KIND

This 22-page booklet is *guaranteed* to open your eyes! It gives you the inside story of advanced barrel finishing *as never told before!*

In the last five years, barrel finishing has made rapid advances. Only those directly connected have been able to keep up. *Only* 30% of the nation's manufacturers are benefiting from the tremendous cost savings and improved finishes made possible by these advances.

Now is the time to investigate this labor-saving, cost-cutting method. ALMCO barrel finishing equipment has completely paid for itself *in as little as two months!* This is easy to understand. A single unit installation replaces from two to twelve men. Savings run as high as 95%.

"Advance Barrel Finishing" is the only mass deburring, grinding and finishing method where results are *controlled*. Amazing results are now possible on almost all types of parts from large castings to small intricate parts. Close tolerance parts can be finished with absolute uniformity to almost any desired micro-inch reading.

WRITE TODAY FOR YOUR *FREE* COPY
ASK FOR BOOKLET No. G-2

ALMCO Supersheen
AMERICA'S LARGEST MANUFACTURER OF ADVANCED BARREL FINISHING EQUIPMENT—MATERIALS AND COMPOUNDS
ALBERT LEA, MINNESOTA

▼ BREVITY—Identify by IEN - 1445 if you write the maker ▼

TRANSFORMER . . Isolating design for interference free testing current

Source: ACME ELECTRIC CO.
26 Water St., Cuba, N. Y.

For electronic testing

Winding on the secondary side of this new single-phase 60-cycle transformer is enclosed in a copper electrostatic shield. Metallic shielded secondary cables are attached to the copper and the shield itself is connected into a test room which is then grounded. This places the shielded transformer secondary in the same electrostatic compartment with the interior of the test room and makes the supplied current independent of line interference or disturbance on the primary side.

Six output ratings are 0.5 to 15 kva. on 55 deg. C. temperature rise. Each of the six can be specified for operation on 110 or 220-volt ac. input. In all cases the secondary is nominal at 110 volts. The smallest unit measures 11 by 6¼ by 6 in. overall. The largest measures 25 by 22 by 30 inches. Weights range from 34 to 518 pounds.

▼ BREVITY—Identify by IEN - 1446 if you write the maker ▼

FABRIC . . Woven fibre, plastic impregnated, fire resistant

Source: FIBRE FABRIC GROUP
122 E. 42nd St., Dept. ML, New York 18, N. Y.

Sample available upon request

Certified Fibre Fabric is a new woven material made of tightly twisted strands of plastic-impregnated fibre. The fabric is made on high-speed looms by seven companies now licensed in the Fibre Fabric Group. The material has been used in manufacture of motor-vehicle seat covers. It now is available for general application.

▼ BREVITY—Identify by IEN - 1447 if you write the maker ▼

PRESS . . Hand hydraulic unit laminates cards between plastic sheets

Source: STUDEBAKER MACHINE CO.
1235 S. 9th Ave., Maywood, Ill.

For identification cards

Heated platens in this new hand-operated press measure 5⅛ by 6¾ inches. The lower platen moves upward through a 3½-in. travel. The press is designed to laminate cards between plastic sheets. One card can be laminated per minute. The machine is mounted on a base measuring 10 by 10 inches. It stands 17 in. in height. The platens are heated by connection through an extension cord to a 110-volt power source. Available accessories include a corner rounder, a trimmer board, polished steel plates and the plastic sheets for laminating identification cards.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1448 if you write the maker ▼

Dependable
MEASURING & CHECKING EQUIPMENT

and Now
HAND WHEELS, KNOBS, HANDLES
Cadmium Plated READY TO DELIVER
Non-rusting — good looking

Send for Complete Catalog

We also build jigs, fixtures, special tools and machinery. Send us your blueprints.

MACHINE PRODUCTS CORPORATION
6761 E. McNichols Road • Detroit 12, Mich.

▼ BREVITY—Identify by IEN - 1449 if you write the maker ▼

BROWNHOIST BUILDS BETTER BUCKETS
— for less money
DIRECT FROM FACTORY TO YOU

ROPE-REEVE, POWER WHEEL AND LINK TYPE
Write for illustrated catalogue
INDUSTRIAL BROWNHOIST CORPORATION
BAY CITY, MICHIGAN

146

▼ BREVITY—Identify by IEN - 1450 if you write the maker ▼

KLIXON PROTECTORS

HELP KEEP MOTORS ALIVE
in all types of equipment

Manufacturers of all types of motor-driven equipment can eliminate motor burnouts headaches by specifying and using motors with built-in Klixon protectors.

Built into the motor by the motor manufacturer, a Klixon protector provides positive protection against overheating and burning out. Should the motor stall or a dangerous overload occur, the protector automatically cuts the power "off". When it cools to safety, it snaps the power "on" again, either by pushing the red button or automatically depending on the type of protector used.

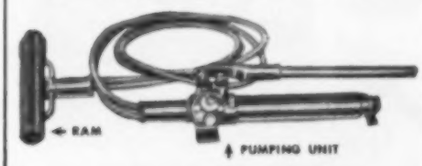
The extra cost for this protection is low, pays dividends by building customer goodwill, eliminating motor burnouts, repairs and replacements.

Remember, all motors do not come protected . . . and the only way to be sure that your motors are equipped with Klixon protectors is to specify on your purchase orders "Motors with Klixon protectors."

KLIXON SPENCER THERMOSTAT
Division of Metals & Controls Corp.
302 FOREST ST., ATTLEBORO, MASS.

▼ BREVITY—Identify by IEN - 1451 if you write the maker ▼

Cut maintenance costs in YOUR plant . . . . .



with a HEIN-WERNER "PUSH and PULL" HYDRAULIC JACK

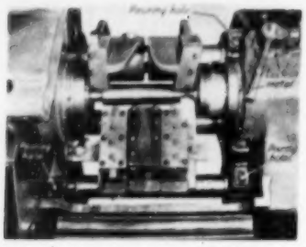
You can save manpower, time and money at hundreds of maintenance and production jobs with a H-W Push and Pull Hydraulic Jack. In models of 4, 10 or 20 tons capacity, these units offer direct push or pull power for moving, pressing, bending, straightening, lifting and lowering operations. Operated by remote control. Available with stand and press to give you a portable workshop. Get complete details from your H-W distributor, or write us.

Hein-Werner HYDRAULIC JACKS

HEIN-WERNER CORP.
Waukesha, Wisconsin
Also manufacturers of a complete line of hydraulic jacks in models from 1½ to 100 tons capacity.

BREVITY—Identify by IEN - 1452 if you write the maker

Bearings Anchored in Cored Holes Eliminate Machining



Machining time is reduced to a minimum if a special Cerro Alloy is used to anchor shaft bushings and sleeves in cored holes in certain types of machinery.

Bushings are aligned and supported in the cored holes of cast machine frame during assembly on pilot bars held in a fixture, while a low melting, non-shrinking Cerro Alloy is poured into space between bushing and hole.

Perhaps this method, used successfully during World War II for mass production of shell lathes, can help you save valuable production time. Write now for further information.

CERRO de PASCO Corporation
(Formerly Cerro de Pasco Copper Corporation)
Dept. 6, 40 Wall Street New York 5, N. Y.

BREVITY—Identify by IEN - 1453 if you write the maker

Many a shop foreman is often unjustly regarded as "just an old fuss-budget." But where files are an important item in the tool budget, abuses and misuses can run production costs ragged.

The waste isn't in the excessive consumption of files alone. Where it really hurts is in *labor costs*—from losses due to waste in workmen's time.

With steel conservation and greater production the order of the day, the selection of longer-lasting Nicholson or Black Diamond files serves both those ends. Taking care of files and using *The right file for the job* effect further economies.

HOW TO SELECT, USE AND CARE FOR FILES is helpfully expounded in Nicholson's famous 18-page illustrated book, "**File Filosophy.**" Write for as many copies as you can use. FREE.

NICHOLSON FILE CO., 33 Acorn St., Providence 1, R. I.
(In Canada, Port Hope, Ont.)

NICHOLSON
A FILE FOR EVERY PURPOSE

BREVITY—Identify by IEN - 1454 if you write the maker

OUR BUSINESS OUR ONLY BUSINESS IS

FABRICATING

SCREENS, STRAINERS, FILTERS

There is a very sound reason for dealing with a company that SPECIALIZES in the FABRICATION of perforated metal and wire cloth products.
Fabrication of wire cloth is very specialized work requiring special equipment and special skills. For that reason even the simplest strainer can best be made by a specialist.

FABRICATION SERVICES
- Shearing
- Soldering
- Brazing
- Welding
- Crimping
- Plating
- Stamping

SEND FREE LITERATURE
Our problem is mainly:
Inc. Firm
Street City State

PITTSFIELD PRODUCTS, Inc.
ANN ARBOR, MICHIGAN

BREVITY—Identify by IEN - 1455 if you write the maker

CONSTRUCTION . . Concrete mixer mounts on truck, 5½ and 7 cu. yd.

Source: CHAIN BELT CO.
1675 W. Bruce St., Milwaukee 4, Wis.

Specifications on request

Hi-Discharge designates two new engine-driven concrete mixers for truck assembly. They rate 5½ and 7 cu. yd. as mixers or 7½ cu. yd. as agitators. Drive and transmission are placed under the drum in the rear where they are accessible for inspection and adjustment. The engine is a 60-hp. 6-cylinder gasoline unit with a 6-volt starter and a fluid coupling. The equipment also can be supplied for drive by a power take-off from the truck. Application can be made on any given truck to meet operating requirements.

The drum is mounted on roller bearings with 3-point suspension. The front pedestal bearing is a self-aligning ball-and-socket design. Drum rotation is 10 rpm. for mixing, 3 to 6 rpm. for agitating, any throttle-controlled speed for discharge. The drum hatch has a 24-in. opening. Charging is through a fixed hopper. A 5-ft. discharge spout is supplied.

BREVITY—Identify by IEN - 1456 if you write the maker

PACKAGING . . Cylindrical carboy to ship hazardous liquids safely

Source: SEYMOUR & PECK CO.
P. O. Box 407-A, Rahway, N. J.

For export use

Two sizes in the company's new ICC-1EX plywood carboy line enclose 5 and 6½-gal. glass bottles with vented screw-cap closures and pour-out finished lips. The bottles ride in a floating plywood spring jacket inside the plywood body. A cover, also plywood, to be fastened on with metal staples, completes the assembly. The company is prepared to supply a stapler and the required staples. Weights are 22½ and 26½ lb. with the bottle. Overall dimensions are 13 by 22½ in. and 14⅝ by 23½ in. for the two available sizes.

BREVITY—Identify by IEN - 1457 if you write the maker

STEELS . . Fabrication instructions for Type-430 stainless steel in five-sheet bulletin

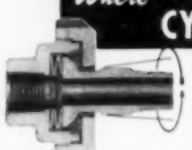
Armco Steel Corp.
701-S Curtis St., Middletown, Ohio

Forming, drawing, welding, soldering, annealing operations are covered by instructions in new "Fabricating Data Bulletin" which consists of five typewritten sheets. Drawing and welding instructions are the most detailed. Pictures show die practice in drawing, microstructure from welding.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1458 if you write the maker

Where HYDRAULIC CYLINDERS Move



KUX MACHINE CO., Chicago, says—

"HERE'S why we use BARCO SWIVEL JOINTS: (1) Unequalled safety, (2) No swelling or leakage under high hydraulic pressure, (3) Complete absorption of shock and vibration," says Kux Machine Co., Chicago maker of an outstanding line of die casting machines. Other advantages offered by Barco include smooth, easy action—NO BINDING; LEAKPROOF! *For the complete story, write today.* BARCO MANUFACTURING CO., 1838-C Winnemac Ave., Chicago 40, Illinois.

Use **BARCO SWIVEL JOINTS**

Kux Die Casting Machine

BREVITY—Identify by IEN - 1459 if you write the maker

KEEP OUTSIDE CREWS WARM WITH PROPANE* PORTABLE HEAT

● With this new Mutual industrial heater you can help eliminate absenteeism this winter by insuring greater comfort and working efficiency for outside crews. This handy Portable Propane Heater is easy and safe to use. Ideal for telephone workers, construction and field survey shelters, small army type field tents, brooders, milking sheds and many industrial uses.

11,000 B.T.U.

Starts instantly without pumping or priming. Burns clean without smoke or gas fumes. May be used in confined quarters. Has heavy steel bottom to prevent tipping. Heating unit available with or without Propane cylinder. ORDER NOW WHILE STOCKS ARE AVAILABLE.

BENCH TYPE

*Liquefied Petroleum Gas

Mutual LIQUID-GAS EQUIPMENT CO., Inc.
5400 WEST IMPERIAL HIGHWAY, INGLEWOOD, CALIF.

BREVITY—Identify by IEN - 1460 if you write the maker

Machinery, Gas and Diesel Engine Builders . . . ATTENTION!

TITAN-KIRKLAND Combination STUD DRIVER AND PULLER . . .

- incorporates ROLL ACTION to *GRIP* as little as ½" of unthreaded body of stud

- REQUIRES ONLY A SLIGHT LEFT OR RIGHT HAND TURN TO GRIP STUD.
- WHEN ROTATION IS STOPPED, TOOL MAY BE LIFTED OFF STUD WITHOUT REVERSING DIRECTION OF ROTATION.

Made in T-Handle, Ratchet, and Power styles in standard sizes from 3/16" to 1" inclusive. Larger sizes on request.

WRITE FOR FREE LITERATURE, TODAY!

TITAN TOOL CO.
Production Tools
52 MAIN ST., FAIRVIEW, ERIE COUNTY, PA.

BREVITY—Identify by IEN - 1461 if you write the maker

4-WAY SOLENOID OPERATED AIR-VALVE only $32.50

For Fast Operation of Cylinders up to 3" Diameter

Compact sturdy construction, precision engineered for long, uninterrupted heavy duty operation.

Has small, well protected solenoid—operates small cylinders up to 3" dia. and larger cylinders where unusual speeds are not required.

Quantity and O.E.M. discounts. Write for description, discounts, etc.

IMMEDIATE DELIVERY

3-WAY VALVE
Same Design
only $19.80

AUTOMATIC VALVE CO.
37419 GRAND RIVER AVE., FARMINGTON, MICH.

BREVITY—Identify by IEN - 1462 if you write the maker

MARVEL No. 8, Capacity 18" x 18"

There is no other sawing machine like it. The work remains stationary. The blade is guided with a 90° twist and power fed vertically through the work. The saw blade and column can be instantly swung and clamped at any angle to 45° either right or left from vertical for miter cutting.

The number 8 MARVEL saw will handle the smallest, as well as the largest work up to 18" x 18". It will cut-off, trim, miter, notch, and split all bar stock, pipe, structural sections, moulding, tubing, or irregular shapes.

Write for our catalog, containing valuable information, enabling you to select a metal saw best suited to your work.

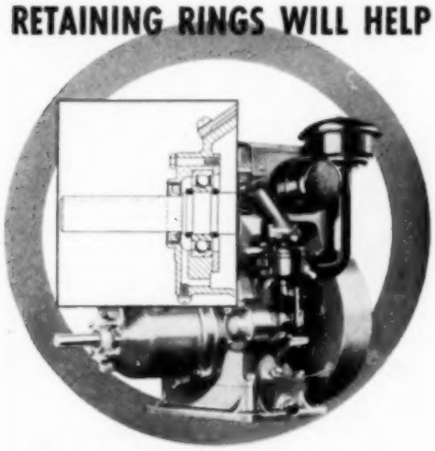
MARVEL SAWS — Metal Cutting — Better Machines—Better Blades

ARMSTRONG-BLUM MFG. CO.
"The Hack Saw People"
5700 Bloomingdale Ave. Chicago 39, U.S.A.

BREVITY—Identify by IEN - 1463 if you write the maker

SAVE WHEREVER YOU CAN!

RETAINING RINGS WILL HELP



These inexpensive, efficient artificial shoulders save metal and money on Wisconsin air cooled heavy duty engines.

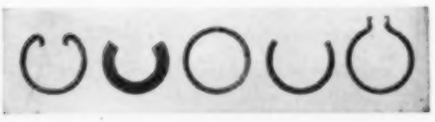
And in addition to saving money and metal, retaining rings save many costly hours in assembly time. Instead of the former wasteful practice of cutting down large shafts, you can redesign to groove smaller shafts and use these high grade steel rings. In your housings, too, rings will save money and improve your products, your machines and your profits.

Every product—metal, wooden or plastic—and every machine should be examined now to see where shoulders and collars can be redesigned to effect great savings by the use of steel retaining rings.

Let us show you how they can do an efficient job for you on your shafts or in your housings.

Write today for booklets on many types of National Retaining Rings.

THE NATIONAL LOCK WASHER CO.
NEWARK 5, NEW JERSEY • MILWAUKEE 2, WISCONSIN



BREVITY—Identify by IEN - 1465 if you write the maker

CLEANING . . Abrasive blast machine, operates wet on parts for jet engines

Source: CRO-PLATE CO.
800 Windsor St., Hartford 5, Conn.

The housing is made of stainless steel

Special assembly of the company's wet abrasive-blast equipment has been built to clean jet-engine parts after an engine has been assembled and run and then disassembled for inspection. Turbine sections and exhaust ducts become covered with a hard tough coating of lead sulphate and lead oxide during the operating interval. The blast operation removes this coating so the parts can be inspected minutely for cracks and imperfections.

The machine is assembled in a housing measuring 8 by 8 by 8 feet. An opening measuring 5 by 7 ft. is provided at the right-hand side so tracks supporting a 6½-ft. work-mounting turntable can be extended out for loading and unloading. Three operators can work at one time each controlling one or two wet-blast guns.

The guns deliver a fine abrasive suspended in water by means of compressed air from a shop line. Impact of the wet abrasive on the metal surface leaves a velvet smooth finish without removing any appreciable amount of metal. The spent liquid and abrasive flow back to a sump beneath the turntable where it is air agitated for return to the guns.

A spray operation completes the cleaning after the turntable and work have been moved outside the main cabinet. The rinse water drains into a catch basin where the grit settles and the water overflows to a floor drain. The abrasive can then be recovered without diluting the mixture in the cabinet sump under the turntable.

BREVITY—Identify by IEN - 1466 if you write the maker

RELAY . . Time delay unit is actuated by a thyratron tube

Source: TIMETROL CO.
P. O. Box 193-A, Rockford, Ill.

Recycles instantly

Time interval between 0.05 and 20 sec. can be set up on this new Model-701 electronic timing relay. The interval is continuously adjusted within the specified range and is initiated by a contact closure. The single-pole double-throw relay mounted with the tube on top of the housing, is operated at the end of the interval to actuate a control circuit rated at 5 amp. on 110-volt ac.

Power input is from a 110-volt 60-cycle ac. line. The unit is designed for panel or surface mounting. Overall dimensions of the new assembly are 6 by 3 by 6 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1467 if you write the maker

Only Thorough Engineering and Adequate Sizing Can Give You Pritchard Quality!

New Pritchard Type "B" QUINTAIR*

Air Cooled Heat Exchanger

Pritchard *quality* means a lot when it comes to selecting air cooled heat exchangers. Take Pritchard's Type "B" Quintair* for example. All parts requiring attention are readily accessible and easily serviced. Thoroughly engineered for long life and operating economy—adequately sized for top performance under the most exacting conditions—the Pritchard Type "B" Quintair* can handle one or several different heat loads in a single compact unit. Whatever your cooling problem, it will pay you to investigate the Pritchard Type "B" Air Cooled Heat Exchanger. ***Write today for full information.***

*Registered Trade Name

Gas & Air Treating
Specialized Heat Exchangers
Cooling Towers

J. F. Pritchard & Co.
EQUIPMENT DIVISION
Dept. No. 171 906 Grand Ave. Kansas City 6, Mo.

District Offices: CHICAGO • HOUSTON • NEW YORK • PITTSBURGH
TULSA • ST. LOUIS • Representatives in Principal Cities from Coast to Coast

BREVITY—Identify by IEN - 1468 if you write the maker

SOUTH BEND 7" SHAPER

Cuts Costs OF MACHINING SMALL PARTS

It's fast—accurate—easy to operate. The South Bend 7" Precision Shaper can consistently give you low machining costs on small parts. Designed to handle a wide variety of work in this class, it will enable you to release larger shapers for heavier work, save on machine investment and economize on both power and upkeep. Find out how this versatile shaper can give you better service on production, toolroom or maintenance machining.

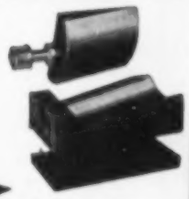
Also write for catalogs on South Bend Lathes (9" to 16-24" swings) 14" Drill Presses and Lathe Attachments.

SOUTH BEND LATHE
SOUTH BEND 22, INDIANA
Building Better Tools Since 1906

BREVITY—Identify by IEN - 1469 if you write the maker

NEW Empco JACK Gives you Quick Accurate Machine Leveling and it ABSORBS VIBRATION

New type JACK greatly reduces noise and vibration with VI-SORB Mounting Pads.



VI-SORB Mounting Pads

The combination of a new Empco Jack and VI-SORB is a long step forward in setting and keeping power-driven equipment level while combating the destructive forces of vibration.

Empco Jacks are self-aligning to give you the quickest, easiest, most accurate machine leveling ever known.

For precise machine leveling and maintenance you will save time and money if you use Empco Jacks with VI-SORB Mounting Pads. Write for complete information and prices today!

Remember: A level machine—kept on the level—does better work and lasts longer.

EMPCO "QUALITY"

THE ENTERPRISE MACHINE PARTS CORPORATION
2737 JEROME AVENUE • DETROIT 12, MICHIGAN

BREVITY—Identify by IEN - 1470 if you write the maker

CRV CENTRIFUGAL PUMPS RIGHT for the job!

. . . in process pumping service

Ingersoll-Rand Class CRV pumps are ideally suited for evaporator and general circulating service in the process industries. Where corrosive liquids are involved, stainless steel construction can be furnished. All CRV pumps can be equipped with the Cameron Shaft Seal—completely eliminating your stuffing box problems.

Part of a complete line of I-R pumps for the processing industries, the CRV is built in sizes from 1 to 6 inches, for capacities to 2600 gpm and heads to 500 feet. Ask your I-R representative about the *real* economy that these pumps can bring to your processes.

Ingersoll-Rand
11 Broadway, New York 4, N. Y.

714-10

Pumps, Compressors and Vacuum Equipment for the Process Industries

BREVITY—Identify by IEN - 1471 if you write the maker

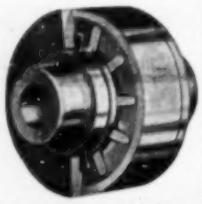
KUSHION-TORK
WHAT IT WILL DO FOR YOU

The Cushion Torque of Kanti-Lever Couplings absorbs the hammer blows of sudden or reversing loads and dampens the torsional and radial vibration that causes wear, fatigue and sometimes failure of Motors, Speed Reducers, Ball Bearings and productive machinery. No other coupling is like the Kanti-Lever: it has a circular series of laminated Cantilevers of 200,000 lb. steel, operating in slots, the tapered sides of which automatically stiffen the Cantilevers under increased overloads. Special end-play up to four inches is possible without end thrust. The outer periphery of the Kanti-Lever is available as a brake drum for quick stopping or reversing machinery.
Send for Bulletin No. 28-N.

Kanti-Lever Couplings

4,000,000 h.p. in Use

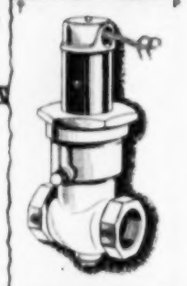
MFRS. OF SECTIONAL STOCK RACKS



BROWN ENGINEERING CO.
122 NORTH 3rd ST. READING, PENNA.

BREVITY—Identify by IEN - 1472 if you write the maker

ATKOMATIC
ELECTRICALLY OPERATED
VALVES



ATKOMATIC Valves can TAKE it! EXTRA rugged to withstand more hard use than you'll ever demand of them. Sturdy, compact, built for any pressures up to 3,000 pounds. In thousands of installations, they are delivering dependable, trouble-free service.

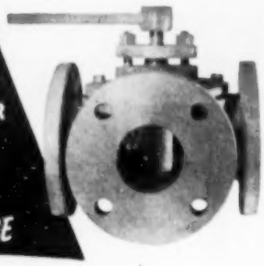
Wide variety of types usable for any medium not harmful to bronze. Perhaps we have already worked out YOUR valve problems . . . why not present them to us without obligation? In your plant or on YOUR product, you can always depend on ATKOMATIC.

Send for Literature

ATKOMATIC VALVE CO.
545 W. ABBOTT ST., INDIANAPOLIS, INDIANA

BREVITY—Identify by IEN - 1473 if you write the maker

The simplicity of HONEYWELL 3-WAY TRANSFER VALVES will SAVE YOU MONEY and SPACE



THE HONEYWELL transfer valve is a simple, compact valve designed for diverting flow from one line to another—such as cooling water from one condenser to another or oil from one strainer to another. It replaces two conventional valves and fittings. Operates by movement of single lever . . . no chance of opening or closing both lines simultaneously.

Sizes 1½ to 8 inches . . . screwed or flanged. Available in high tensile iron body with iron or bronze trim. Body rating 125 lbs. ASA facing and drilling. Maximum inlet pressures 30 psi to 10 psi. Cost is low . . . act quickly.

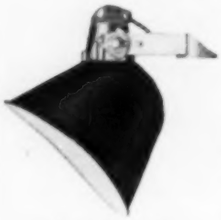
MINNEAPOLIS-HONEYWELL REGULATOR COMPANY, *Industrial Division*, 1911 Windrim Ave., Philadelphia 44, Pa.

Minneapolis-Honeywell VALVE PRODUCTS
First in Controls

BREVITY—Identify by IEN - 1474 if you write the maker

LIGHTING . . Incandescent fixture with flood lighting reflector hood

Source: STEBER MFG. CO.
2702 Roosevelt Road, Broadview, Ill.



About $23 to $30

Spare-Liter Series 2500 is a new elliptical open-type flood light for wall, cross-arm, pipe-clamp or pole-fitter mounting. A cast-aluminum neck is attached to the reflector by a back-up flange and six machine screws. The neck encloses the wiring compartment with entrance through a weather-proof gasketed cap. The lamp socket is mounted in the cap which also is provided with a ½-in. threaded opening and insulating bushings for the service lead.

Each assembly is equipped with an indicator scale with five-deg. graduations to set at a required angle and to assist in return to an original setting after the fixture has been serviced. An inner Alzaked aluminum reflector can be specified. Standard finish is vitreous porcelain enamel, green outside, white inside.

The fixture is available to take Type PS 300 to 1,500 watt general service lamps, Type T-24 bi-post lamps rating 750 to 1,000 watts or mercury vapor lamps Type T-10 rating 400 watts. The reflector opening is 15½ in. vertically, 19 in. across.

BREVITY—Identify by IEN - 1475 if you write the maker

PACKAGING . . Disc type machine counts tablets, capsules to containers

Source: POPPER & SONS INC.
300 Fourth Ave., Room 1005, New York 10, N. Y.

Operator positions containers

Tab-Count Model T-400 is a new machine in the company's Perfektum line of packaging equipment to gather and deliver predetermined quantities of tablets or capsules into containers mounted beneath a delivery spout. The work pieces are filled into a hopper on top of the machine and the count disc is rotated beneath them. The units fall into the openings and the filled group then moves around to the point of delivery. The machine is mounted on casters.

The hopper holds 20,000 to 30,000 tablets. Hourly production is to 1,500 bottles containing 100 units. Overall dimensions are 33 by 35 by 48 inches. Drive is by a 1/12-hp. motor.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

FIND WHAT YOU WANT?
Hundreds of listings in the Product Index, page 110

BREVITY—Identify by IEN - 1476 if you write the maker

You'll find these products in SAFE HANDS!

HANDEEZ
a must where hands come in contact with lubricating oils . . . Lifts shop grime from pores, gently but thoroughly. Contains a sterilized vegetable emollient which acts as an absorbent. Non-irritating . . . keeps skin free of cracks where dermatitis starts. In powder form — bulks BIG at low cost.

BORSUDS
A borated soluble hand cleaner for heavy grime on tender skin. Contains finest medium and low titer soaps (the lower the titer the more quickly soluble the soap). Lathers richly even in fairly hard water, cannot clog drains.

VOLAX
Extra-heavy duty hand cleaner. Removes ground-in grime, printing ink, stubborn dirt. Contains friable volcanic ash.

DISPENSING EQUIPMENT AVAILABLE
See your DOLGE SERVICE MAN or write for literature.

Dependable DOLGE
WESTPORT, CONNECTICUT

BREVITY—Identify by IEN - 1477 if you write the maker

Left—Union Special Style 20100 H Bag Closing Machine

Here's how to close MULTIWALL PAPER BAGS

FOR lower production costs . . . stronger, neater closures . . . ability to get out rush orders in a hurry, you can't beat Union Special Bag Closing Machines! Specially built to stand up under heavy production schedules, these machines provide the high output rates needed to meet modern competitive conditions.

In the Union Special line, it's easy to find the right unit to meet your particular requirements.
ASK FOR RECOMMENDATIONS.

SEND FOR THIS BULLETIN!

Get your copy of this 16 page illustrated bulletin containing helpful data and charts on the complete Union Special line of bag closing machines. UNION SPECIAL MACHINE CO., 410 North Franklin Street, Chicago 10, Illinois

UNION SPECIAL

BREVITY—Identify by IEN - 1478 if you write the maker

MARMAN SUPPORTS
For Ducting, Fuel, Hydraulic or Air Lines and Wiring Assemblies

Lug type

Marman Support secures hydraulic line to landing strut assembly

Clip type

Marman Supports are light, strong, and corrosion-resistant. They provide secure mountings that allow for quick assembly or disassembly, yet hold tight under conditions of stress or vibration. Lugs, clips or brackets can be attached to Marman Clamps to make Supports which will hold hydraulic lines, wiring, etc.

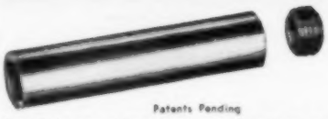
Marman Supports often can be used in place of traditional screw or bolt mountings to save weight, cost and installation time. They are supplied with patented "Quick Coupler" or T-Bolt tension screws for maximum ease of assembly or disassembly.

WRITE DEPT. I-2 for complete information on Marman Supports

MARMAN PRODUCTS CO., INC.
9300 WEST FLORENCE AVENUE
INGLEWOOD, CALIFORNIA

BREVITY—Identify by IEN - 1479 if you write the maker

How SQUARE HOLED SLEEVES SPEED UP TOOL-MAKING!



Patents Pending

One of the most difficult problems in tool making can be solved easily and quickly with Sturdy Square Holed Sleeves. The perfection of broached square holes can be had in boring bars, milling cutters and many other applications at a small fraction of the cost of imperfect hand-made square holes. The Sturdy Square Holed Sleeve consists of a round sleeve with a perfectly square hole broached through the center. This hole is tapped at one end to receive a back-up screw which is furnished with the sleeve. The sleeve can be sweated or pressed into a drilled and reamed hole to make a perfectly square accurate hole in a very few minutes.

The Sturdy Square Holed Sleeve will save you many hours and many dollars in the making of boring bars, tool holders and other tools requiring square holes.

BUSHINGS MADE IN FOLLOWING SIZES:
3/16, 1/4, 5/16, 3/8 7/16, 1/2, 5/8, 3/4, 1"

Write for Literature

STURDY BROACHING SERVICE
23616 TELEGRAPH ROAD, DETROIT 19, MICH.

▼ BREVITY—Identify by IEN - 1480 if you write the maker ▼

A FAST WAY TO REDUCE COSTS

Capacities from ¼ to 1 ton
110, 220 or 440 volts

Hundreds of plants are cutting overhead with the CM COMET . . . a sturdy, high-speed, portable electric hoist. All working parts fully enclosed and permanently lubricated. Don't buy until you see the CM COMET. Ask your local distributor for a demonstration.

Write for Bulletin 138
Get all the facts

CHISHOLM-MOORE
HOIST CORPORATION
Affiliated with Columbus McKinnon Chain Corporation
GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.
SALES OFFICES: New York • Chicago • Cleveland • San Francisco • Los Angeles

▼ BREVITY—Identify by IEN - 1481 if you write the maker ▼

LIKE AN
ATOM-IC
EXPLOSION

Just 1/32" (pinhole size) faucet leak
MUSHROOMS into ATOMIC WASTE
of approximately 95,000 gallons of water yearly—costing:
$24.14
@ $1.90 per M cubic feet

If a hot water faucet, then actual FUEL WASTED heating 95,000 gallons costs approximately:
$59.81 if coal (3670 lbs.)
$91.08 if oil (792 gals.)
$64.41 if gas (64,415 cu. ft.)
Above figures authenticated by Brooklyn Water Co. and American Gas Association.

STOP this needless WASTE during today's MATERIAL and MANPOWER shortages with "SEXAUER" "Easy-Tite" that outwear ordinary faucet washers 6-to-1, thus SAVING labor on 5 REPEAT repairs, PLUS water and fuel, while prolonging the life of SCARCE fixtures.

PAT'D.
"EASY-TITE"
Faucet washers

...a modern laboratory triumph, are compounded from du PONT NEOPRENE (tested up to 300° F.) instead of rubber—to withstand DESTRUCTIVE HEAT common in present-day superheating water systems—that formerly broke down washer's structure.

Built like a tire with fabric re-inforcement

they resist the grinding, closing squeeze that SPLIT and MUSH ordinary washers out of shape...causing LEAKS.

Through combining NEOPRENE and FABRIC RE-INFORCEMENT they OUTWEAR ordinary washers 6-to-1 on hot or cold FAUCETS—thus you slash water, fuel and labor costs.

THE NEW "SEXAUER" CATALOG,
Edition G, just out pictures over 2500 TRIPLE-WEAR plumbing REPAIR parts and Pat'd. Precision Tools. It's today's accepted buying guide for discriminating purchasing and maintenance personnel among thousands of top PLANTS, INSTITUTIONS and GOVERNMENT AGENCIES that rely on SEXAUER repair materials. Send for your copy today!

Then too, there's a SEXAUER TECHNICIAN within quick call from coast-to-coast, who offers a special SURVEY service that sets up a schedule of the exact replacement parts required for your particular plumbing fixture regardless of make or age and *without obligation.*

A postcard will bring him and your NEW Catalog promptly.
J. A. SEXAUER MFG. CO., INC., Dept. K-22,
250-55 Third Avenue, New York 51.

as advertised in THE SATURDAY EVENING POST

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

▼ BREVITY—Identify by IEN - 1483 if you write the maker ▼

RELAY . . Thermal delay design, preset intervals of 5 to 120 seconds

Source: THOMAS A. EDISON INC.
49-53 Lakeside Ave., West Orange, N. J.

$3.50 to $7.50

Model 207 is a new miniature design in the company's line of thermal delay relays, previously described IEN-6305-46. The new unit is hermetically sealed in a T 5½ glass envelope with a miniature button 7-pin base. It weighs ½ ounce. Seated height is 2¼ in. and diameter is ¾ inch.

The contacts are rated at 2.5 amp. on 110-volt ac or 1.0 amp. on 110-volt dc. The unit is compensated for change in ambient temperature between minus 60 and plus 85 deg. C. Standard heaters rate 6.3, 2.75 and 110-volt ac, or dc.

▼ BREVITY—Identify by IEN - 1484 if you write the maker ▼

ADHESIVES . . Solvent cement to assemble Lucite, Plexiglas acrylics

Source: SCHWARTZ CHEMICAL CO.
324-28 W. 70th St., New York 23, N. Y.

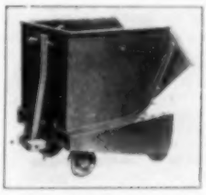
Previously made by DuPont

Type H-94 and H-114 are two free-flowing water-white solvent cements for assembly of products made of Lucite, Plexiglas and similar acrylic plastics. The two are identical with adhesives of the same name previously manufactured by DuPont. Both are optically clear and will produce bubble-free joints and laminations. Application is by brush, dropper or hypodermic syringe. Large areas can be joined by the standard "soak" method. Packaging is in pints, quarts and gallon glass containers.

▼ BREVITY—Identify by IEN - 1485 if you write the maker ▼

TRUCK . . Dump type trailer rates ½ cu. yd., fork truck pockets

Source: PHILLIPS MINE & MILL SUPPLY CO.
2300 Jane St., Pittsburgh 3, Pa.



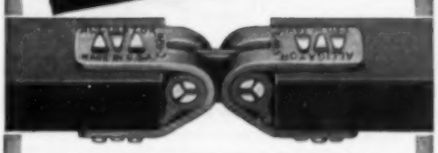
Welded steel

Model T-SRF-½ is a new assembly in the company's Phil-Dump line in which a dump body is mounted on a truck chassis. The unit is designed for movement by hand, for lifting and transporting by a fork-lift truck or for towing singly or in a train by an industrial tractor. Pockets in the chassis provide entrance for truck forks. A handle is employed for attachment to a tractor or to move the unit by hand. The dump body is fitted with prongs to engage guiding holes in the chassis in the dumping movement. It is self-acting when the body is full and a trip latch is operated at the track rear.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1486 if you write the maker ▼

Now you can fasten V-belts by using
ALLIGATOR
V-BELT FASTENERS



● Alligator V-Belt Fasteners and open-end (long length) V-belting in rolls will enable you to make up multiple V-belt drives for a wide variety of applications.

Available for B, C and D sizes of V-belting.

Not to be used for repairing endless cord V-belts.

Bulletin V-211 will give you complete details. A copy mailed on request.

Order from your supply house

FLEXIBLE STEEL LACING COMPANY
4610 Lexington Street, Chicago 44, Illinois

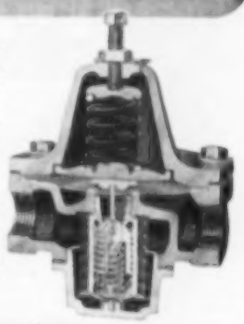
Also sole manufacturers of Alligator Steel Belt Lacing for flat conveyor and transmission belts and FLEXCO Belt Fasteners and Rip Plates for fastening and repairing conveyor belts.

▼ BREVITY—Identify by IEN - 1487 if you write the maker ▼

stopping
ONE HEADACHE . . .

Once you have chosen Cash-Acme valves as component parts of your factory equipment, you can stop worrying about valve failures or sudden disaster.

We invite you to investigate Cash-Acme direct acting single seated pressure reducing valves for steam . . . water . . . air . . . or gas lines.



CASH-ACME
Automatic Valves

Type B valve. For full information, request catalog 144.

A. W. CASH VALVE MANUFACTURING CORP.
6612 East Wabash Avenue, Decatur, Illinois, U. S. A.

▼ BREVITY—Identify by IEN - 1488 if you write the maker ▼

CASTELL
PUSH BUTTON LOCKTITE
the perfectly balanced holder
(black or colored)

An indispensable drawing tool for professional men everywhere — because LOCKTITE holds lead in bulldog grip, prevents it sliding back into holder. Reduces smearing and smudging, because your fingers never touch the graphite, except when refilling. Order from your Dealer today.

No. 9030
CASTELL
Refill
IMPORTED
Master Degree Leads
7B to 9H

Reproduces more clean, sharp blue-prints than any other lead.

The same wonderful imported leads that you get in the CASTELL wood pencil. Usable in all standard holders. Also available in red, blue, green, yellow, carmine, orange, white and silver.

CASTELL
the drawing pencil with the Master Degrees

A.W. FABER-CASTELL
PENCIL COMPANY, INC. NEWARK, N. J.

▼ BREVITY—Identify by IEN - 1489 if you write the maker ▼

Operate at Full Voltage with
ALLIS-CHALMERS *Dry-Type* TRANSFORMERS

MAXIMUM EFFICIENCY is obtained when motors and other equipment are operated at rated voltage. Allis-Chalmers dry-type transformers installed close to the load provide full voltage for efficient motor operation, bright, flicker-free lights, and full heating of thermal equipment. Long expensive runs of secondary copper are avoided, and distribution losses are minimized.

Transformers are easy to mount. Install them on walls, platforms, posts or directly on machines. No expensive fire-proof vaults are needed. Available in a wide range of sizes.

Write Allis-Chalmers, Milwaukee 1, Wisconsin, for bulletin 61B6582A. A-3255

ALLIS-CHALMERS A-C

BREVITY—Identify by IEN - 1490 if you write the maker

New Flexible Sealing T-J AIR CYLINDER

Designed with revolutionary application of Super-Cushion

It's *sealed with pressure*—insures positive cushion action combined with automatic valving action for fast return stroke . . . eliminates binding and sticking . . . operates with *low friction, minimum wear,* and *added power* due to higher efficiency. Many more plus features! Wide range of styles and capacities. Write for bulletin 252. The Tomkins-Johnson Co., Jackson, Mich.

50 YEARS' EXPERIENCE

TOMKINS-JOHNSON

BREVITY—Identify by IEN - 1491 if you write the maker

You CAN'T Go Wrong with Abart SPEED REDUCERS

No two ways about it—Abart Speed Reducers have the stamina to stand up under years of grueling service . . . whatever the job you may be sure of a dependable, trouble-free performance. Choose from over 75 sizes and types in spur, worm and combinations . . . 1/50 to 168 HP . . . ratios up to 10,000 to 1. Abart Reducers are oil-tight, dust-free, long wearing—made of the strongest materials.

Send now for illustrated catalog showing the complete line of Abart Speed Reducers.

Abart GEAR & MACHINE CO.

4923 WEST 16th STREET • CHICAGO 50, ILLINOIS

Mfrs. of Gears and Speed Reducers

BREVITY—Identify by IEN - 1492 if you write the maker

S.S.WHITE Elastoplastic PLUGS and CAPS

Slipped into or over the ends of plain tubing, these plugs and caps protect the ends and keep out dirt and moisture.

Made of flexible Vinylite plastic, they are resistant to most oils, offer high electrical insulation, and are easily applied and stay put. For details

WRITE FOR BULLETIN P-5107

THE S.S.White PLASTICS DIVISION
DENTAL MFG. CO. Dept. NP, 10 East 40th St. NEW YORK 16, N. Y.

WESTERN DISTRICT OFFICE: Times Building, Long Beach, Calif.

BREVITY—Identify by IEN - 1493 if you write the maker

WINDING . . Three hand cranks for clocks and spring driven devices

Source: J. A. CAMPBELL CO.
643-47 E. Wardlow Road, Long Beach 7, Calif.

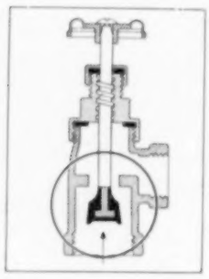
Easy on clock and worker

Winder-Upper trade names a new hand crank available in the three illustrated designs to replace winding keys on clocks and spring-driven mechanisms. Three designs list at $1.50, $2.25 and $2.75. The smallest is a simple unit with a square broached opening to take the specified size of clock-winding stem. The other two are provided with adaptors for the stem and with torque chucks where turning effort can be limited as required. Steel parts are chromium plated. The handles are red Catalin plastic.

BREVITY—Identify by IEN - 1494 if you write the maker

VALVES . . Rubber sealing disc or plug for use by valve makers

Source: RODIC CHEMICAL & RUBBER CORP.
1951 Allen Ave., New Brunswick, N. J.



Ask for sample

Rand Seal is a new cone-shaped assembly of rubber on a metal plug for use as a component part of a valve as indicated in the illustration. The rubber can be compounded for use in contact with oil, grease, steam, water and many industrial fluids including gas. Application in the valve is in reverse from that normally employed so flow tends to close the opening and assist in the sealing action.

Six stock sizes range from ¼ to 1¼ in. in greatest diameter by about 1 to 1¼ in. in overall length. In addition the company is prepared to supply larger sizes to as much as 24 in. in diameter. Temperature can range to 325 deg. F.

BREVITY—Identify by IEN - 1495 if you write the maker

FIRST AID . . Instruction booklet on the why and how of artificial respiration

Mine Safety Appliances Co.
21 Braddock Ave., Pittsburgh 8, Pa.

Human respiratory system and its operation is described at the start of new 24-page "Elements of Artificial Respiration". The booklet continues with a description of the circulatory system, eleven common causes of asphyxia and how to combat their effects, standard methods of artificial respiration.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1496 if you write the maker

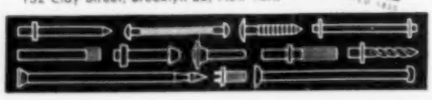
SPECIFY Hassall specially engineered fasteners

Hassall cold-headed fasteners can improve your products and save you money, even on short runs. Send us your specifications for your nails, rivets and screws... in diameters from 1/32" to 3/8"... lengths to 7"... in any workable metal . . . in practically any finish.

◆ Your inquiry will be handled promptly. Ask for free catalog.

JOHN HASSALL, INC.
132 Clay Street, Brooklyn 22, New York

Hassall ESTABLISHED 1852



BREVITY—Identify by IEN - 1497 if you write the maker

ALLEN HEAD Pressur-Formd CAP SCREWS

- Heat-treated Allenoy Steel
- Perfect concentricity
- Threads Class 3 fit
- Burr-free threads and sockets

Pressur-forming preserves steel fibres uncut for strength and reinforces vital points.

For a stronger screw with greater resistance to fatigue failure insist on Allen Heads. Made to the most rigid standards maintained by scientific chart control.

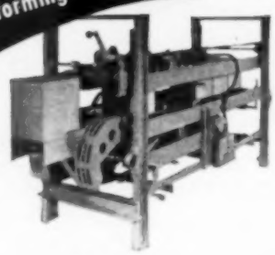
Standard in sizes from No. 4 to 1" diameter and ¼" to 8" length, N.C. threads. Many sizes also standard in N.F. threads.

SOLD ONLY THROUGH LEADING INDUSTRIAL DISTRIBUTORS

THE **ALLEN** MANUFACTURING COMPANY
Hartford 2, Connecticut, U. S. A.

BREVITY—Identify by IEN - 1498 if you write the maker

A shorter, narrower, simpler, and better performing case sealer



CAN BE MADE PORTABLE IF DESIRED

THE NEW A-B-C Junior CASE SEALER

The A-B-C Junior Case Sealer automatically seals corrugated shipping containers in only a fraction of the floor space ordinarily required. Operation is fast—trouble free—economical. A completely new flight chain construction virtually eliminates carton jamming . . . Three semi-automatic models are available to fit most case sizes. Write today for details and floor plans.

A-B-C PACKAGING MACHINE CORP.
QUINCY, ILLINOIS

BREVITY—Identify by IEN - 1499 if you write the maker

TEMPERATURE CONTROL

Five Ranges of 150, 350, 450, 650 and 1000 deg. F. Thermostatic element operates electric switch. Switch capacity to 500 watts ac. 50 watts dc.

This Model M Indicating Temperature Control is installed to operate a solenoid or motor valve in a gas, oil or steam line and thus regulate flow in step with heat requirements. It is employed to control the operation of electric heating elements, relays, motors. It automatically maintains temperature (where you set the red-colored pointer on its temperature-indicating scale) in an oven, melting pot, platen, drier, or any heated equipment.

This electric control is available in two and three-wire designs for ac. and dc. control circuits. The thermostatic element is our mercury-actuated flexible unit, powerful, positive, accurate. All elements are changeable. List prices of the complete control range from $62 to $74.

Send for Bulletin 505-C for detail information

THE PARTLOW CORPORATION
4 Campion Road New Hartford, N. Y.

BREVITY—Identify by IEN - 1500 if you write the maker

Sheehan's TWO-PLANE PRESS CONVEYORS SENSATION at CHICAGO SHOW

Here's the revolutionary Sheehan Model B Press Conveyor, equipped with a Flat-Wire Metal-Mesh Belt, that has Material-Handling men talking and marvelling at its performance. Think of it—at the loading end, top of belt is actually within 8 inches of floor, and with unusual two-plane design, conveyor can go under the back of presses, thereby saving working space and minimizing need for cumbersome chutes. Use of positive-drive sprockets in load-center of flat-wire belt, assures no belt slippage—oily conditions included.

LOWER-COST LONGER-LIFE
Sheehan Press Conveyors Can Solve Your Press Room Problems!

Investigate the many construction and safety features that make Sheehan Press Conveyors outstanding in performance and economy!

Write today for literature on sizes, special applications and cost data. You will be surprised at Sheehan's high quality and low prices.

R. T. SHEEHAN CO. PLYMOUTH, MICH.

BREVITY—Identify by IEN - 1501 if you write the maker

FEED SHEETS FASTER

at presses
cutting machines
forming equipment
with
RAYMOND
Hydraulic
SHEET FEEDING TABLES

NOW—there's no need to waste work-time on unnecessary handling with RAYMOND Hydraulic Sheet Feeding Tables! These tables step up feeding — banish lifting, tugging, stooping. Here's what they can do in your plant:

LIGHTEN WORK Hydraulic foot pump or electric-driven power pump raises table, pedals lower it—operator is no longer fatigued from heavy lifting.

SPEED FEEDING Top sheet is always at correct feeding level—operator merely slides it into position. Result: Feeding becomes faster, more accurate!

CUT HANDLING COSTS Table can be loaded in storage area—moved to machine on easy-rolling wheels. Useful for die transferring. Has towing eyes for hauling.

FREE BULLETIN Send today for Bulletin 206, showing the complete line of RAYMOND Hydraulic Sheet Feeding Tables — in models from 2,000 to 20,000 lb. capacities and with flat or tilting tops.

RAYMOND

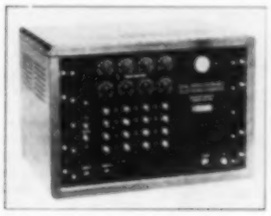
ELECTRIC INDUSTRIAL TRUCKS • HYDRAULIC ELEVATING EQUIPMENT

The RAYMOND CORPORATION
3567 Madison St., Greene, N.Y.

BREVITY—Identify by IEN - 1503 if you write the maker

COUNTING . . Electronic equipment predetermines double sequence to 9,999

Source: POTTER INSTRUMENT CO.
113-17 Cutter Mill Road, Great Neck, N. Y.



No chance for error

Four decades operate in connection with two selector switches and four count-selector dials to set up a sequence of two counts each in any number from 1 to 9,999. One count follows another immediately without skipping. Coincident with the change-over, a relay is operated to control work speed of the second part of the sequence as compared to the first part. At the end of a cycle the counter resets immediately. It will accept counts to 1,000 per second.

Application is in connection with count of material flow where normal flow is at high speed and slow down is called for in a final counting stage to provide time for operation of gates, shears and similar cut-off devices. Thus a high-speed conveyor belt can be slowed down as the end of a selected batch total is approached. Then movement can be continued at the reduced speed accompanied by the final count to make up the exact total. Similarly, drive-shaft revolutions can be counted in processing continuous strip material and the rotation slowed down prior to reaching the point at which shearing action is to cut off the strip in a given length. The relay action can be momentary, adjustable over a range from 0.01 to 0.1 second. It also can be single-pole double-throw "stay put" to alternate position as each preset count is reached.

BREVITY—Identify by IEN - 1504 if you write the maker

VALVE . . Ring plate design for suction side of ammonia compressors

Source: FRICK CO.
320 Broadway, Waynesboro, Pa.

Named for company's Chief Engineer

Garland trade names new ring-plate valve design for the suction side of the company's enclosed ammonia compressors and for its second and third-stage equipment handling Freon 22. Each valve is a complete assembly ready to thread into position and to key in place by a self-locking screw. It is interchangeable with the poppet valve previously used in the company's vertical and closed ammonia compressors.

The valve plate, the only moving part, operates satisfactorily with a small lift to open ports on both its outer and inner edges. It is made of chrome electric steel heat treated and ground to a polished flat finish. The top valve housing is secured to the seat by rivets rolled into countersunk holes. Overall diameter is 2⅝ inches. The National Fine threads on the cage are 2 in. in diameter. Total weight is 12 ounces.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1505 if you write the maker

HOW TO *Easily* POUR PERFECT BEARINGS *Safely!*

First roll up three lengths of Dambabbit, now —

use two rolls to dam bearing openings at each end, and with third roll make a pouring well at top of bearing. Now pour in babbitt metal, then —

job is finished. The result: clean, perfect bearings poured with safety.

Use PLASTIC DAMBABBIT

Unlike clay compounds, Dambabbit is moisture free and not affected by high temperatures. When bearings are poured, no steam is generated—no danger of explosions—NO ACCIDENTS! Armstrong's Dambabbit STAYS plastic. It can be used again and again without loss of effectiveness. Protect your maintenance men against nasty burns—save your company money!

SEND TRIAL ORDER NOW
10-lb. Container of Dambabbit only $2.50
Shipping Charges Prepaid

The ARMSTRONG COMPANY
241 S. POST STREET DETROIT 17, MICH.

BREVITY—Identify by IEN - 1506 if you write the maker

GE TIME-DELAY FUSES

renew links in 3 easy steps

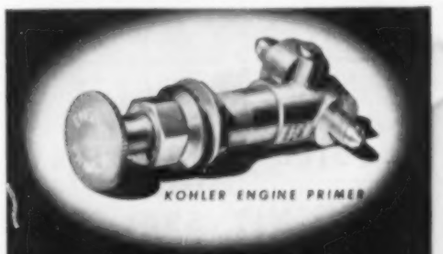
Just these three easy steps to follow when you renew G-E time-delay fuses. (1) Simply unscrew cap . . . (2) insert new, self-aligning link . . . and . . . (3) replace cap—that's all there is to it.

Ferrule fuse ratings from 3 to 60 amp, knife-blade from 70 to 600 amp—both available for 250- or 600-volt service. For details, write Section D3-242, Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.

You can put your confidence in—

GENERAL ELECTRIC

BREVITY—Identify by IEN - 1507 if you write the maker



KOHLER PRECISION CONTROLS

Hydraulic · Fuel · Pneumatic

The Kohler Engine Primer will operate efficiently at low temperatures, using Diesel oil, gasoline or ether to start internal combustion engines.

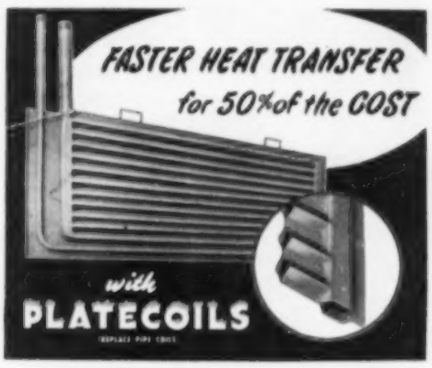
Kohler Co. is a leading supplier of precision controls to manufacturers of Diesel engines, automobiles, trucks, tractors, jet engines, military, commercial and private aircraft, agricultural and industrial test equipment. Write for our complete catalog.

Kohler Co., Kohler, Wisconsin. Established 1873.

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS
AIR COOLED ENGINES • PRECISION CONTROLS

BREVITY—Identify by IEN - 1508 if you write the maker



A Platecoil has more heat transfer area than a pipe coil twice its size. Thus it takes only half as much Platecoil to heat a given area. You have 50% less steel to pay for so you can save nearly 50% in initial cost. The Platecoil takes only half as much space in the tank. The greater BTU transfer per unit area of Platecoil also means faster heating or cooling. Platecoils require less maintenance and can be removed without dumping the solution.

Send for complete technical manual and descriptive Bulletin No. P56.

PLATECOIL
ROLD-HOLD MFG. CO.
LANSING 5, MICHIGAN

BREVITY—Identify by IEN - 1509 if you write the maker

NEW FRACTIONAL H.P. STARTER HAS ALL THE FEATURES!

- Quick-make, quick-break contact mechanism
- Single or double pole construction
- Double-break contacts of fine silver
- Modern styling
- Straight thru wiring with convenient terminals—generous wire space
- Dependable melting alloy type overload protection—trip-free
- Definite trip indication
- Interchangeable overload relay units accessible from the front
- Open type starter can be used with standard switch box and flushplate

RATINGS: *Double pole:* 1 H.P., 115—230 volts A.C. or D.C. *Single pole:* 1 H.P., 115—230 volts A.C. and ½ H.P., 115—230 volts D.C.

Write for Bulletin 2510A. Address Square D Company, 4041 N. Richards St., Milwaukee 12, Wisconsin.
ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY
DETROIT · MILWAUKEE · LOS ANGELES

BREVITY—Identify by IEN - 1510 if you write the maker

HANSEN

QUICK CONNECTIVE HIGH PRESSURE TWO-WAY SHUT-OFF COUPLINGS

Both ends of line are positively sealed when you disconnect the Hansen High-Pressure Two-Way Shut-Off Coupling. To connect, merely pull back sleeve and push plug into socket. Identical torpedo type valves in plug and socket permit free flow of gas or liquid. To disconnect, pull back sleeve—coupling disconnects and valves automatically and instantly seal both ends of line.

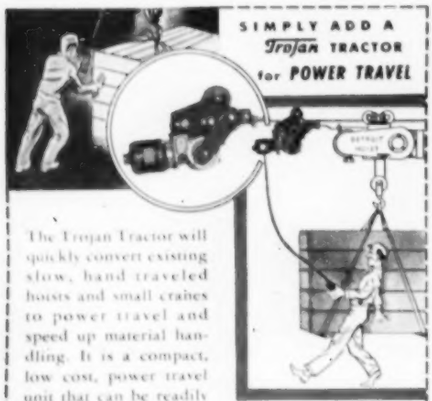
Where fluid lines may be damaged by sudden strain, coupling can be mounted in bracket to disconnect automatically—leaving fluid lines free, positively sealed, and—undamaged.

Series HK

Also straight through, and one-way shut-off couplings. Write for catalog.

THE HANSEN MANUFACTURING COMPANY
[illegible] · CLEVELAND [illegible]

BREVITY—Identify by IEN - 1511 if you write the maker



The Trojan Tractor will quickly convert existing slow, hand traveled hoists and small cranes to power travel and speed up material handling. It is a compact, low cost, power travel unit that can be readily attached to overhead material handling equipment by means of a simple draw bar.

Send in this advertisement for more information and a copy of Trojan Tractor Bulletin 810; just fill in company name and address.

DETROIT HOIST & MACHINE CO.
8227 MORROW ST. • DETROIT 11, MICH.

Company _____

Address _____

BREVITY—Identify by IEN - 1512 if you write the maker

TESTING . . Electronic instrument reads pH, also circuit voltage

Source: LEEDS & NORTHRUP CO.
4934 Stenton Ave., Philadelphia 44, Pa.

Instructions are on panel

Type 7664 is a new combination pH indicator and vacuum-tube voltmeter with ranges from 0 to 14 pH in 0.1-pH divisions and from 0 to plus or minus 700 or 1,400 millivolts in 10-mv. divisions. Temperature can be compensated between 0 and 100 deg. C. Accuracy is to plus or minus 0.1 pH. Normal operation is on 110-volt 60-cycle ac. The unit is enclosed in an aluminum housing and measures 10½ by 10¼ by 8⅝ inches.

The instrument is independent of normal fluctuations in line voltage or zero drift of the amplifier. It operates as a converter-type unit, its circuit employing dc. to ac. conversion, ac. amplification and conversion back to dc. for voltage feedback. Conversion stabilizes the zero point. Feedback stabilizes the gain.

BREVITY—Identify by IEN - 1513 if you write the maker

GRINDING . . Wheel dressers mount one or more diamonds in holder

Source: CHRISTENSEN DIAMOND TOOL CO.
9605-9 Traverse St., Dept. J, Detroit 13, Mich.

Diamond size to 3 carats

Single-point, Group-mounted and Chisel-face designate three designs in the company's line of diamond-point wheel-dressing tools. Whole diamonds are set in a powdered-metal matrix known as C-Metal. The company guarantees replacement or refund of purchase price if the tool does not operate satisfactorily or does not fit a given job.

BREVITY—Identify by IEN - 1514 if you write the maker

WELDING . . How a gas torch works described in booklet with notes on flame behavior

National Welding Equipment Co.
216-20 Fremont St., San Francisco 5, Calif.

Oxy-acetylene torch construction is subject of new 16-page booklet, "You Don't Need an Egg Beater to Mix Gases". Topics include why a torch flame stays lit, how hot a flame temperature is, how gases are mixed in a torch.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

BREVITY—Identify by IEN - 1515 if you write the maker

Make your *Eye Safety Program* a real success!

Supply WATCHEMOKET eye SAVERS

Insure the success of your eye safety program by supplying goggles that workers will actually wear! The light, comfortable fit and good looks of Eye-saver plastic goggles make them popular with workers everywhere. Available from your safety supplier in many different styles to meet all eye hazards. Tuc-Away model (illustrated) features "telescoping" temples with frame fashioned for "change-around" lens plan.

FREE! *Send for magazine article giving impartial advice on best uses of plastic eye protection. Eye-Savers catalog also included.*

WATCHEMOKET OPTICAL CO., INC.
DEPT. 7, PROVIDENCE • RHODE ISLAND
Producers and Originators of Practical Plastic Eye Protection

BREVITY—Identify by IEN - 1516 if you write the maker

You know how tight with APCO TENSION DRIVER

No B-25, 0-25 inch pound. Length 12". Weight ½ lb. Non-slip, non-chip, non-conductor handle.

Here's the driver you've been waiting for . . . a rugged, fool-proof, ratchet-free torque tool that'll save you many an hour on scores of different assembly jobs. Broken screw days are over when you use APCO.

Just check the safe load on the free chart supplied with every driver and go to work. Four big, easy-to-read brass dials let you see the exact torque from *any* position.

Every driver supplied with three fine tool steel heads to adapt the driver instantly to slotted, Phillips or ¼" socket drives.

Send for descriptive circular today . . . or better still, order one and see for yourself now the easy way this *new* APCO TENSION DRIVER saves you time, material and accidents.

APCO MOSSBERG CO.
Attleboro, Mass., U. S. A.

BREVITY—Identify by IEN - 1517 if you write the maker

No longer is there any need for stockmen to measure off lengths of rope. *New Bedford does it for them at the factory—accurately marks off in red ten foot lengths of rope.*

No longer is there any need to cut bands and remove covers from rope. *New Bedford cartonizes rope—packs it in sturdy, octagonal cartons that can be stacked ceiling high without danger of toppling. All that's necessary is to punch in the perforated circle in the top of the carton and start paying out rope.*

Add these exclusive features to New Bedford quality—New Bedford durability—New Bedford dependability—and you'll see why New Bedford's *always* the buy *all ways.* Cartonized in half and full coils in manila and sisal. *New Bedford costs no more!*

Send for the FREE reference chart and specifications of New Bedford manila, sisal and nylon rope.

NEW BEDFORD CORDAGE CO.
New Bedford, Mass.

BREVITY—Identify by IEN - 1518 if you write the maker

The New **Hoffman** ELECTRONIC SAFETY GUARD gives you

New Electronically Controlled SAFETY and BARRIER GATE GUARD brings benefits to both management and workers

YOU can increase your plant power press production immediately with installation of the Hoffman Safety and Barrier Gate Guard. It gives the operator greater assurance, eliminates fatigue and accident time-loss. It will give higher and smoother production per man hour.

The Hoffman Guard is an electronically controlled guard consisting of four major parts—Light Source and Photo Cell Assembly — Amplifier — Magnetic Treadle Control — Non-Repeat Micro Switch. The Barrier Gate Guard is an auxiliary unit and is used as a double safety precaution.

HOFFMAN ENGINEERING CORP.
Department 4-1 • Anoka, Minnesota
Please send free details about the Hoffman Electronic Safety Guard.
Name _____
Address _____
City _____ State _____

HOFFMAN ENGINEERING CORPORATION
ANOKA, MINNESOTA
Electronic Controls for Industry

▼ BREVITY—identify by IEN - 1519 if you write the maker ▼

need LOW temperatures in your production or testing?

Murphy & Miller cabinets will meet your requirements

FEATURES:

- ★ Completely Sealed Refrigeration Units
- ★ Welded Tube Assemblies—No Maintenance Problems
- ★ Ranges to −140°F. . Most Advanced Designs Available

If your production requires low temperatures for any reason . in any range, there's a Murphy & Miller Chest or Cabinet to meet your needs. Extra features such as controlled heating and humidity available in any cabinet or chest. Capacities from 1 cu. ft. and up, in standard or special models to your order.

Write for bulletins and specification data today.

MURPHY & MILLER, Inc.
1324 SOUTH MICHIGAN • CHICAGO 3, ILLINOIS

▼ BREVITY—identify by IEN - 1520 if you write the maker ▼

BUSHINGS FOR SPECIAL PANEL THICKNESS

DEAD LUG OFF POSITION

OHMITE

CLOSE-CONTROL

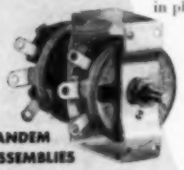
RHEOSTATS

TOGGLE SWITCH

AVAILABLE WITH MANY SPECIAL FEATURES . . .

SCREW DRIVER SLOT SHAFT

Ohmite offers not only a line of *standard* rheostats, but also rheostats with a wide variety of *special features*. Illustrated are only a few. All have the distinctive Ohmite design features: smoothly gliding metal-graphite brush; all-ceramic construction; insulated shaft and mounting; windings permanently locked in place by vitreous enamel. You'll find the special rheostat feature you need in the dependable Ohmite line.



TANDEM ASSEMBLIES

OHMITE MFG. CO.
4813 Flournoy St.,
Chicago 44, Ill.

Write on company letterhead for Engineering Catalog No. 40.

Be Right with

OHMITE®

RHEOSTATS • RESISTORS • TAP SWITCHES

▼ BREVITY—identify by IEN - 1522 if you write the maker ▼

TESTING . . Hardness instrument reads Rockwell B and C and Brinell

Source: PEABODY INDUSTRIES INC.
12127 Hamilton Ave., Dept. 22, Highland Park 3, Mich.

Trigger releases impact action

New Metalometer is now available to read surface hardness in non-ferrous metals. It is a portable instrument that applies an impact load and reads hardness by rebound height on a scale. The original instrument is equipped with three scales to read Rockwell B, C and Brinell hardness. The new unit is known as Type N-F. It also carries a comparative scale graduated in 100 numerical divisions to compare accepted and approved non-ferrous surfaces with all known surfaces of similar composition. In addition to the gage itself, the company is prepared to supply an anvil assembly in which a small specimen can be securely clamped and on which the gage can be mounted.

▼ BREVITY—identify by IEN - 1523 if you write the maker ▼

PAINTING . . Maintenance paint for surfaces subject to 1,000 deg. F.

Source: TROPICAL PAINT & OIL CO.
1244-48 W. 70th St., Cleveland 2, Ohio

Applies by brush or spray

Thermalite is a new aluminum-base paint that spreads to a smooth silver-bright finish on metal surfaces such as boilers, kilns, exhaust stacks, furnaces, melting pots, laboratory apparatus. The paint contains silicone. It is resistant to attack by weathering, chemical fumes and salt spray. It will not discolor, blister, flake or burn off in temperatures to 1,000 deg. F. It will set, following application, after being subjected to 200 deg. F. for an hour or more. The metal surface to be coated should be properly cleaned prior to applying the paint. One gallon covers about 1,000 square feet.

▼ BREVITY—identify by IEN - 1524 if you write the maker ▼

SCAFFOLD . . Tubular end frame assembles with spacers and braces

Source: WILSON-ALBRECHT CO.
3561 Wooddale Ave., Dept. K-P, Minneapolis 16, Minn.

Steel tube in welded assembly makes up a new "walk through" scaffold end frame measuring 6½ ft. in height. The unit and its accompanying tubular spacers and cross braces can be built up to a multiple-unit height. Two available widths are 3 and 5 ft. respectively.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—identify by IEN - 1525 if you write the maker ▼

SAFETY IS THE BEST POLICY IN LOAD BINDERS

THE CANTON "TAKE-UP" ACTION picks up slack, binds in one operation. Design and heavy duty construction eliminates spread or release while in operation. Each factory tested, guaranteed for specified capacities. 7 sizes from 4,000 to 35,000 lb. rating, priced $3.00 to $14.80. Continuous action makes them a versatile tool in steel, lumber, machinery hauling, logging, oil fields, rigging. Two sizes made without take-up feature.

POPULAR AMERICAN FORGE *RATCHET* LOAD BINDERS

COMPLETE SAFETY IN TIGHTENING, BINDING, RELEASING LOADS . . . versatile "turnbuckle" principle has wide range of application. One man easily operates without aid of extension pipe; no kickbacks, full 8" take-up. 3 sizes, $14.90 to $18.10. Special size ideal for trueing steel work on building construction.

CANTON CAST PRODUCTS CO.
Maker of Concap Exhaust Protectors
2404 13th St., N. E. • Canton 5, Ohio

▼ BREVITY—identify by IEN - 1526 if you write the maker ▼

CONTROL POWER BETTER

ROCKFORD CLUTCHES

▼ BREVITY—identify by IEN - 1527 if you write the maker ▼

NEW

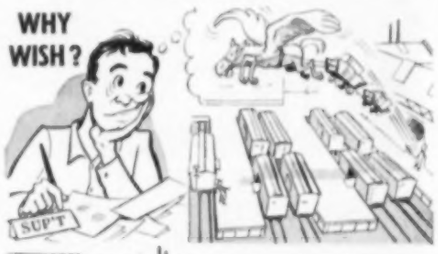
Fan Catalog for '52... EMERSON ELECTRIC'S COMPLETE LINE!

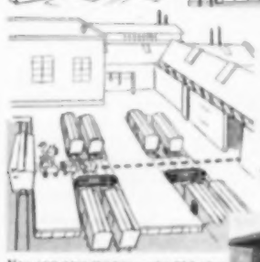
Again it is the most complete fan line in America . . . fans for every commercial, industrial and domestic use. See them all in the new catalog for '52. Write Dept. T38 .

THE EMERSON ELECTRIC MANUFACTURING CO.
St. Louis 21, Mo.

EMERSON ELECTRIC
FANS • MOTORS APPLIANCES

▼ BREVITY—identify by IEN - 1528 if you write the maker ▼





Be Practical—Use a **WHITING** CROSS-OVER BRIDGE

You can save money—you can save time, and you can speed up materials movement from dock-to-dock with Whiting Cross-Over Bridges. Designed in three general types (Overhead-Rise—Ground Level—and Roll-Away).

Write for Bulletin MS-C-400 and learn how these practical Cross-Over Bridges fit your materials movement requirements. The Whiting Corporation, Harvey, Illinois.

▼ BREVITY—identify by IEN - 1529 if you write the maker ▼

how much is bearing trouble affecting your products' reputation?

It can you know — and yet it is so easy to avoid machinery inefficiencies traceable to bearing failures. Just be sure to specify one of the MULTIBOR full type roller bearing series. Each is designed for a specific kind of service and has proven ability to carry greater loads longer with more precision and less maintenance. Their dependability will help keep your machinery at its peak. Select one of the following types and write today for more details in the new McGill Bearing Catalog No. 52.

-SE Series

Multirol SE Series Bearings have an exclusive small roller design that provides maximum load carrying capacity in a limited radial space plus smooth, anti-friction performance. They often permit reduced housing size and cost.

Rollers Roll More Load

Write today for new Catalog No. 52. McGill Manufacturing Co., Inc., 100 No. Lafayette St., Valparaiso, Indiana.

McGILL precision bearings

▼ BREVITY—identify by IEN - 1530 if you write the maker ▼

THE BEST KNOWN NAME IN

BOSS WORK GLOVES

There's a perfect Boss Glove for *every* job

WHITE CANTON FLANNEL GLOVES

DOUBLE PALM GLOVES

HOT MILL GLOVES & MITTENS

LEATHER PALM GLOVES

JERSEY GLOVES & MITTENS

ALL LEATHER GLOVES

BIG APE 3874 A leading chore glove. Double throughout. Available in either quilted or rubberized styles.

ASK YOUR DISTRIBUTOR or send for free copy of complete catalog and new "WORK GLOVE SELECTOR." The quick and easy way to find exactly the right glove for every job. Also see "Thomas' Register," 1952 Edition.

THE BOSS MANUFACTURING CO., DEPT. IE-2, KEWANEE, ILL.

▼ BREVITY—identify by IEN - 1531 if you write the maker ▼

PRODUCT-PROVED WIRE

CONTINENTAL STEEL CORP. STEEL CONTINENTAL WIRE KOKOMO, IND.

● The worth of Continental wire has been *proved* in the products of hundreds of leading manufacturers. Continental wire is uniform in temper, uniform in coating. Whether your need is for a rust-resistant wire that can stand up under difficult forming operations . . . or for a shaped wire to provide smarter-looking, longer-lasting trim . . . Continental wire can help you build a better, more profitable product. Write Continental at Kokomo.

CONTINENTAL STEEL CORPORATION

▼ BREVITY—identify by IEN - 1532 if you write the maker ▼

TESTING . . UHF sweep generators, continuous tuning from 470 to 890 mc.

Source: RADIO CORPORATION OF AMERICA
413-17 S. 5th St. Harrison, N. J.

Detailed in technical bulletin

Type WR-40A and Type WR-41A are new ultra-high-frequency sweep generators for use in development of television receivers and other uhf. equipment. Both have a continuously-variable sweep width from 0 to 45 mc. with amplitude variation of 0.1 db per mc. or less through the sweep range. Maximum output level of the sweep oscillator is 0.5 volt across a 50-ohm load. Provision is made also to match either a 72 or a 300-ohm load.

Type WR-40A is a laboratory-type unit for use in design development of tuners, filters, converters, receivers, antennas, transmission lines and other specialized types of uhf. equipment. It employs a built-in crystal calibrator and variable-frequency marker oscillator. Type WR-41A has the same sweep-generator mechanism but does not include the laboratory type calibrator or marker circuit.

▼ BREVITY—identify by IEN - 1533 if you write the maker ▼

DRIVE . . Variable speed unit, motor and geared V-belt transmission

Source: REEVES PULLEY CO.
800 N. Wilson St., Columbus, Ind.

Lever controls pitch

New control for lever-operated speed adjustment is now available on the company's Series-1000 Vari-Speed Motodrive. It supplements the previously developed handwheel and electric remote controls. Four ratings are ¾ to ¾ hp. with speed variation maximum at 10 to 1.

Base dimensions are about 17 by 9½ in. with housing height at 17 inches. The speed-control lever extends about 11 in. above the top of the housing. The motor is flange mounted and is interchangeable in the four rated sizes. In addition to vertical installation of the lever it can be set horizontally to either the right or the left or vertically downward.

▼ BREVITY—identify by IEN - 1534 if you write the maker ▼

CONTROLS . . Book describes principles and problems encountered in automatic controls

John Wiley & Sons Inc.
440 Fourth Ave., New York 16, N. Y.

Essentials of a basic automatic control arrangement, its response to corrective action, regulating-unit characteristics are set forth in first chapter of new 300-page book, "Fundamentals of Automatic Control." List price is $5. Other chapters cover control types and stability, mathematics involved, plant characteristics, control selection and adjustment.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—identify by IEN - 1535 if you write the maker ▼

NYLINED*

BEARINGS

With SMOOTH, TOUGH DuPONT NYLON

SOLVE MANY BEARING PROBLEMS

NYLINED Bearings have a thin liner of DuPont NYLON within an inexpensive metal sleeve. This enables low-cost quantity production and fabrication of trial quantities to customer specifications without a major die investment.

*A BETTER BEARING AT A MODERATE COST

- *Longer life*
- *Lower friction coefficient*
- *Superior without lubrication*
- *Resist chemical attack*
- *Outstanding abrasion resistance*
- *Dampen mechanical vibration*
- *Suitable for close fits*
- *Non-contaminating*
- *Smooth, silent operation*

Write for Circular and the name of your local representative.

THOMSON INDUSTRIES, INC. Dept. G
MANHASSET, NEW YORK

Also Manufacturers of BALL BUSHINGS . . the Ball Bearing for Linear Motions

▼ BREVITY—identify by IEN - 1536 if you write the maker ▼

ROBINSON *Tipped* Nylon BRUSHES

UNTIL RECENTLY the performance characteristics of pure-bristle brushes had never been duplicated in those made of synthetic materials. Now, because of Robinson's careful expert tipping and blending of nylon filaments, *TIPPED* nylon brushes contain all the qualities of pure bristle brushes . . . flexibility, resilience, taper and good length out. Robinson *TIPPED* nylon brushes are superior in painting performance . . . they pick up more paint and lay it down faster, smoother.

An outstanding reception is given to Robinson's *TIPPED* nylon brushes by maintenance, production, and master painters alike. Try them yourself! They are available through Distributors, Paint and Oil Dealers or Hardware Stores. Catalog mailed on request.

EDWARD E. ROBINSON INCORPORATED
P.O. Box 147
95 PARK AVENUE • NUTLEY 10, N. J.
Telephone NUtley 2-4510

▼ BREVITY—identify by IEN - 1537 if you write the maker ▼

ORANGEVILLE HAND TRUCKS

"Keep Loads Alive"

Illustrated are a few of the many hand trucks we make for factory and warehouse use. They are typical of a wide range of available types and sizes which we can furnish in two-wheel and four-wheel designs. We also build special trucks to order to meet unusual handling needs.

Write for Catalog 50

FLOOR TRUCKS ORANGEVILLE

ORANGEVILLE MFG. CO.
ORANGEVILLE 15, PA.
Established 1879

▼ BREVITY—identify by IEN - 1538 if you write the maker ▼

ROWE ADJUST-A-DOCKS

Eliminate Costly Hand Loading

1. Brings dock to level of any truck bed.
2. Speeds loading by fork and lift truck directly into carriers.
3. Eliminates dock hazards.
4. Floats at truck level.
5. Sturdy hydraulic finger-tip control.
6. Pays for itself in 30 days.

ADJUST-A-DOCK

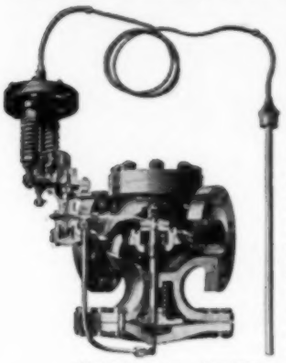
LOOK into the SAVINGS you can make in freight handling with Rowe Adjust-A-Docks. WRITE FOR BULLETIN and complete information.

ROWE METHODS, INC.
2334-H DETROIT AVENUE • CLEVELAND 13, OHIO

▼ BREVITY—Identify by IEN - 1539 if you write the maker ▼

LOW COST

Temperature Control



ET150 Temperature Regulator

Tops in performance for both storage and instantaneous heaters, this pilot-operated Spence regulator offers these important advantages:

SECO Metal Seats and Discs — 20 years experience has failed to produce a single case where SECO Metal has been cut by steam.

Packless Construction — minimizes friction . . . eliminates much time-consuming maintenance.

Large Metal Diaphragm—under usual conditions never requires replacement.

New bulletin gives complete data on the entire line of Spence regulators. They are made in sizes from ¼" to 12" for service with air, steam, water, oil or gas. Write for your free copy of Bulletin 500 today.

SE-106

Spence

SPENCE ENGINEERING COMPANY, INC.
WALDEN, NEW YORK

▼ BREVITY—Identify by IEN - 1540 if you write the maker ▼

...with

STAR BLADES

Do your metal-cutting jobs the *easy*, efficient, fast way by telling your supplier you want STAR Blades. He'll recommend just the right one in the line for your particular work.

After all, the complete STAR line of hacksaw blades, frames and metal-cutting band saws is the line most people buy.

Sold only through recognized distributors

CLEMSON BROS., Inc.
MIDDLETOWN, N.Y., U.S.A.

Makers of Hand and Power Hack Saw Blades, Frames, Metal Cutting Band Saw Blades and Clemson Lawn Machines.

1081A

▼ BREVITY—Identify by IEN - 1542 if you write the maker ▼

PHOTOGRAPHING . . Camera assembly takes employee identification pictures

Source: GRAFLEX INC.
199 Clarissa St., Rochester 8, N. Y.

No skill required

Simplified design of the company's photographic equipment, previously described IEN-4874-51, has been developed. It is for small and medium-size companies that require security identification passes for personnel but are not warranted in buying the original complete equipment.

Assembly includes a photorecord camera, an adjustable wood stand, a set of magnetized identifying letters and numbers, and a background screen with height markings from 4 to 6½ feet. As many as 400 identification pictures can be taken per hour on 35-mm. film.

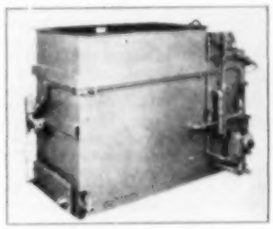
Negatives measuring 1 by 1⅝ in. can be contact printed for use in tamper-proof badges and personnel records or they can be enlarged for other purposes. The complete equipment weighs 32 pounds. It assembles into a carrying package measuring 54 by 9 by 8 inches.

The user supplies the required standard lighting equipment and mounts the chart on a wall with the stand in suitable position in front of it to take the employee's picture. The identification mounts on an extension from the stand. The camera can be employed also to photograph documents, drawings, records and small three-dimensional objects.

▼ BREVITY—Identify by IEN - 1543 if you write the maker ▼

CLEANING . . Degreasing machine removes oil and grease from metal parts

Source: DETREX CORP.
14329 Woodrow Wilson, Detroit 32, Mich.



No interior projections

Twenty-one standard sizes are included in a new Type VS-800 line of solvent vapor-slush degreasing machines for production use in metal-product manufacture. Smallest unit in the line provides interior work area measuring 2½ by 2 by 1½ feet. The largest measures 10 by 4 by 6 feet. Special sizes beyond these dimensions can be specified. Each is characterized by provision for unobstructed entrance of the work to be cleaned and for convenient operation from either side.

The machine employs non-inflammable chlorinated-hydrocarbon solvents in a cycle consisting of vapor cleaning, clean-solvent flooding by means of a hand-held spray lance and final pure-vapor cleaning. The solvent can be heated by steam, gas burner or electric element as specified. The heating equipment is accessible through a door in the housing. An access door also provides entrance to the solvent-storage section. New design of the condenser coil assures ample distillate for the slushing operation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

▼ BREVITY—Identify by IEN - 1544 if you write the maker ▼

MELRATH GASKETS

FULL OPEN HEAD PAIL AND DRUM GASKETS

Designed to meet every service requirement. Tubular and solid rounds or sponge rubber for containers of liquids and semiliquids. Melco Fabritex Gaskets for use in drums of dry or powdered and semisolid products.

"There's a Melrath Gasket for Every Purpose!"

MELRATH SUPPLY & GASKET CO., INC.
3501 MEMPHIS ST., PHILADELPHIA 34, PA.

▼ BREVITY—Identify by IEN - 1545 if you write the maker ▼

Have YOU sent in? EVERYONE else has

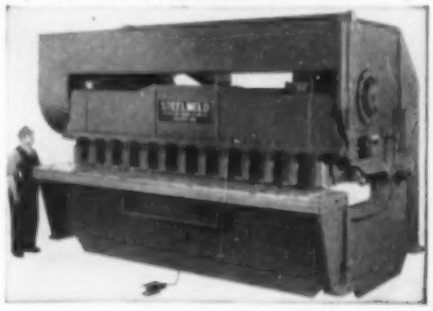
Frankly, we've been amazed at the interest in our new book on TENSION LINKAGE. We've been literally swamped with inquiries . . . have exhausted two printings . . . have a third on the press. If you haven't already requested your copy, we suggest you do so today.

You'll find it of real value if you design lift trucks, hoists, counterweight suspensions, controls or any type of equipment that must transmit pull or lift. *Send for your free copy today.* Chain Belt Company, 558 Plainfield St., Springfield 2, Mass.

BALDWIN-REX ROLLER CHAINS

A PRODUCT OF
Chain Belt COMPANY
OF MILWAUKEE

▼ BREVITY—Identify by IEN - 1546 if you write the maker ▼



CUTS 12 FEET 3/4 INCH STEEL PLATE

1. 30 strokes per minute.
2. Operated by electric foot switch.
3. Cuts by pivoted-blade principle.
4. Fast Micro-Set knife adjustment.
5. 36-inch throat permits slitting wide plate.
6. Lift-up type ball-bearing back gauge.
7. Heavy welded one-piece steel frame.

Send for free copy of catalog No. 2011.

THE CLEVELAND CRANE & ENGINEERING CO.
4230 East 282nd St., Wickliffe, O.

STEELWELD SHEARS

▼ BREVITY—Identify by IEN - 1547 if you write the maker ▼

DEFENSE CONTRACT?

FOR DEPENDABLE SUB-CONTRACTING LET GREENE QUOTE THESE JOBS . . .

STAMPINGS Over 80 presses ranging up to 125-ton capacity.

ROLLED FORMS 10 machines; simple or intricate rolled shapes.

PLATING Nickel, chrome, cadmium, brass, bronze and zinc.

POLISHING Hand and automatic equipment.

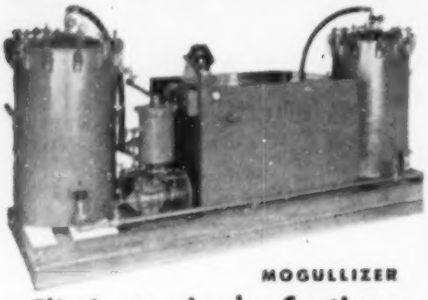
PAINTING Spray and dip; air dried or baked.

ASSEMBLIES Spot welded, screw fastened, riveted, etc. Screw machine sources available.

Put our years of prime and sub-contracting defense work experience to work for you. Write or phone today. Quotations without obligation. G 12a

Greene of Racine
Greene Mfg. Co., Inc. RACINE WIS.

BREVITY—identify by IEN - 1548 if you write the maker



MOGULLIZER

Eliminates Leaky Castings

If your contract calls for impregnation, or if your production castings leak or weep and will not hold pressure, investigate our Mogullizing system—a high vacuum and pressure method of sealing castings. Models to meet your requirements.

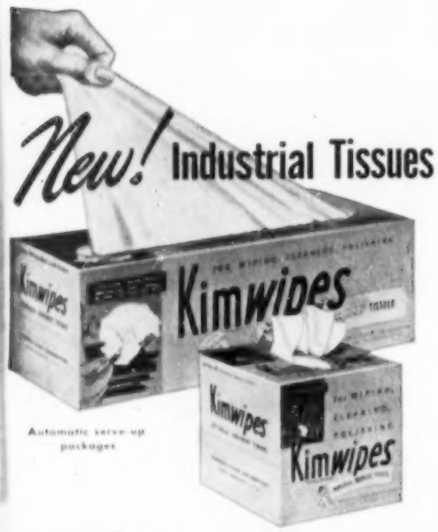
Any standard impregnating material can be used but for top efficiency we recommend our Mogul Cast Seal.

Prompt deliveries.

Write today for full details on the Mogullizing system.

METALLIZING COMPANY OF AMERICA
3520 W. Carroll Avenue • Chicago 24, Ill.

BREVITY—identify by IEN - 1549 if you write the maker



Automatic serve-up packages

For Wiping and Polishing

Wiping precision instruments

Let clean, *disposable* KIMWIPES* industrial wiping tissues standardize—and economize—your cleaning operation. Soft, yet strong, they're ideal for cleaning precision tools and instruments. Recommended for use on finely finished surfaces. And highly absorbent KIMWIPES remove dust, dirt, grease and oil—quickly, safely.

The Bureau of Federal Supply stocks Kimwipes size 15" x 18" in all Supply Centers under stock item #53P23121-800.

Polishing machined parts

Kimwipes

INDUSTRIAL WIPING TISSUES

*T. M. REG. U. S. PAT. OFF. & CAN.

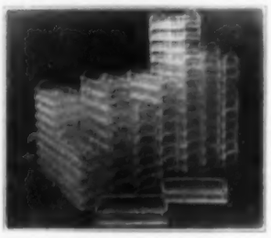
KIMBERLY-CLARK CORPORATION, IEN 252
Neenah, Wisconsin
Please send me Kimwipes literature.

Name .....
Firm Name .....
Address .....
City ..... Zone ..... State .....

BREVITY—identify by IEN - 1551 if you write the maker

HANDLING . . Formed wire baskets to carry work through production

Source: WIRE & IRON PRODUCTS INC.
1723-27 16th St., Detroit 16, Mich.



Details in folder

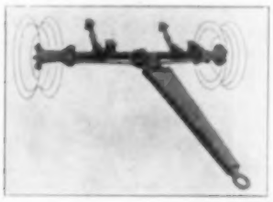
Eezy-Stak trade names a new wire basket that is made to specified dimensions. It is equipped with inserts, also to specification, to handle given work. The basket is designed to protect finished work surfaces against abrasion due to rubbing together or striking each other in the process of handling. The inserts hold each work piece individually so adjoining units do not touch.

Construction can be specified in 1/8 to 5/16-in. steel wire, in 1/4 to 3/8-in. flat expanded metal, in wire mesh or perforated metal. All designs are cadmium plated and can be rubber or plastic coated. The units can be stacked in multiple as shown in the illustration.

BREVITY—identify by IEN - 1552 if you write the maker

WHEELS . . Front axle assembly for company's four wheel running gear

Source: UNITED MFG. CO.
9-13 W. Interstate St., Bedford, Ohio



Symmetrical steering arms

New design is shown in the illustration for the front axle assembly in the Caravan line of four-wheel running gear, previously described IEN-11845-49. This new Model 2-A axle provides a turning radius to 45 deg. depending upon track width and spring location. It provides stability through a 1 3/4-in. center-arm stop.

The automotive-type design is available in capacities ranging from 5 to 6 ton. The gear is designed particularly for assembly under air compressors, heavy-duty generators, pumps, tar kettles, concrete mixers, military equipment.

BREVITY—identify by IEN - 1553 if you write the maker

ALLOYS . . Picture booklet and story present unusual description of the company's products

Cooper Alloy Foundry Co.
212 Bloy St., Hillside 5, N. J.

"Alloys in Cooperland" titles new 26-page booklet related in story form by the Walrus character of the book, "Alice in Wonderland." He tells about his trip through the company's plant and the stainless-alloy products made there. Color pictures show what he saw. A copy is available on letterhead request to individuals in chemical industry or concerned with stainless alloys. Otherwise the list price is $1.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 1554 if you write the maker

THE
HI-GAIN Industrial POCKETSCOPE
MODEL S-14-A
BY WATERMAN

Identified by its hi-sensitivity and incredible portability, S-14-A POCKETSCOPE now permits "on-the-spot" control, calibration and investigation of industrial electronic, medical and communications equipment. Direct coupling without peaking, used in the identical vertical and horizontal amplifiers, eliminates undesirable phase shifting. Designed for the engineer and constructed for rough handling.

Wt. 12 3/4 lbs. 12" x 5 1/4" x 7"

Vertical and horizontal channels. 10mv rms/inch, with response within −2DB from DC to 200KC and pulse rise of 1.8 μs. Non-frequency discriminating attenuators and gain controls with internal calibration of trace amplitude. Repetitive or trigger time base, with linearization from 1/2cps to 50KC with ± sync. or trigger. Trace expansion. Filter graph screen. Mu metal shield. And a host of other features.

WATERMAN PRODUCTS CO., INC. PHILADELPHIA 23, PA.
CABLE ADDRESS: POKETSCOPE

WATERMAN PRODUCTS INCLUDE

S-4-A SAR	PULSESCOPE
S-5-A LAB	PULSESCOPE
S-10-B GENERAL	POCKETSCOPE
S-11-A INDUSTRIAL	POCKETSCOPE
S-14-B WIDE BAND	POCKETSCOPE
S-15-A TWIN TUBE	POCKETSCOPE

Also RAKSCOPES, LINEAR AMPLIFIERS, RAYONIC TUBES and other equipment

WATERMAN PRODUCTS

BREVITY—identify by IEN - 1555 if you write the maker

Four Times Faster Than Hammer and Nails

IMPROVED BOSTITCH H4 STAPLING HAMMER, with knuckle protector, is now better than ever for speeding up fastening and cutting costs. It's stronger and easier to use. *What power!* Each easy blow drives a sturdy 3/4" staple all the way home . . . staple legs spread inside the work, putting them under tension for increased holding power. *What speed!* One blow per staple . . . one hand free for holding work . . . quick, easy loading . . . no nail juggling. A *free* trial will convince you that this improved Bostitch H4 stapling hammer will save you time, labor and money. WRITE FOR BULLETIN 212. BOSTITCH, 454 Mechanic St., Westerly, R. I.

BOSTITCH fastens it better, AND FASTER with wire
ALL TYPES OF MACHINES FOR APPLYING STAPLES
ALL TYPES OF STAPLES APPLIED BY MACHINES

BREVITY—identify by IEN - 1556 if you write the maker

Eliminate Exhaust Fumes!

Use OCM Catalytic Exhausts on Your Gasoline Powered Fork Lift Trucks

BOX CAR LOADING
INSIDE FACTORIES
FOOD PROCESSING PLANTS
SHIPHOLD OPERATIONS

With the OCM exhaust, gasoline powered fork lift trucks may be operated safely in confined areas.

The OCM exhaust replaces the standard muffler on any industrial truck.

Fumes are rendered non-poisonous and odorless by the catalyst built into the exhaust.

Write for more facts today.

LISTED BY UNDERWRITERS' LABORATORIES, INC.

LONG LIFE . . . FULLY TESTED . . . GUARANTEED PERFORMANCE

OXY-CATALYST MFG. CO. INC.
113 CONESTOGA RD., WAYNE, PA.

BREVITY—identify by IEN - 1557 if you write the maker

SEE FOR YOURSELF—Next time try a FORT WORTH TRANSCO L D SHEAVE

FORT WORTH WAREHOUSES MEAN BETTER V-DRIVE SERVICE

You will receive the best in service, sheaves, and V-belts when you buy a Fort Worth-Transco V-drive.

Two manufacturing plants and a large foundry, designed to make sheaves, assure volume production even in periods of short supply. Factory warehouses in most large industrial centers supplemented by numerous stocking distributors provide quick delivery of stock sizes.

We will be pleased to advise you the name of your nearest stocking distributor.

"QD" HUB ALSO FITS NEW FORT WORTH "QD" Roller Chain Sprocket

Speed changes are simplified and "spare" sheaves and sprockets can be carried more easily.

If your favorite distributor doesn't stock the Fort Worth QD line — both sheaves and sprockets, tell him about them. He'll reward you with better service.

Write for descriptive catalogs on "QD" Sprockets and Sheaves. Address Dept. 26, and they will be sent to you immediately.

FORT WORTH STEEL AND MACHINERY CO.
Dept. 22, 3600 McCart St., FORT WORTH, TEXAS

FORT WORTH PRODUCTS
ROLLER CHAIN SPROCKETS
SCREW CONVEYORS and ACCESSORIES
SCREW ELEVATORS
INDUSTRIAL FANS

▼ BREVITY—Identify by IEN - 1558 If you write the maker ▼

NEW SELF-CONTAINED HUMIDIFIER

Evaporates up to 8 gallons of water per hour using ¼ horsepower motor.

The new Bahnson **Type E Humidifier** is designed for efficient humidification in industrial and commercial spaces.

CHECK THESE FEATURES!

- Automatically controlled at desired relative humidity.
- Requires only 1-4" water supply line. 110 or 220 volt single phase current.
- Simple to install — your men can do it.
- Directional control of distributed moist air.
- Instantly adjustable rate of evaporation to suit your requirements — or modulating control.
- Centrifugal atomization of ordinary city water for highest efficiency — lowest cost.
- Durably constructed, non-corrosive, diameter 17", dry weight under 50 lbs.

FOR TRULY DEPENDABLE LOW COST HUMIDIFICATION

Bahnson Company
ENGINEERS AND MANUFACTURERS
WINSTON-SALEM, N. C.

▼ BREVITY—Identify by IEN - 1559 If you write the maker ▼

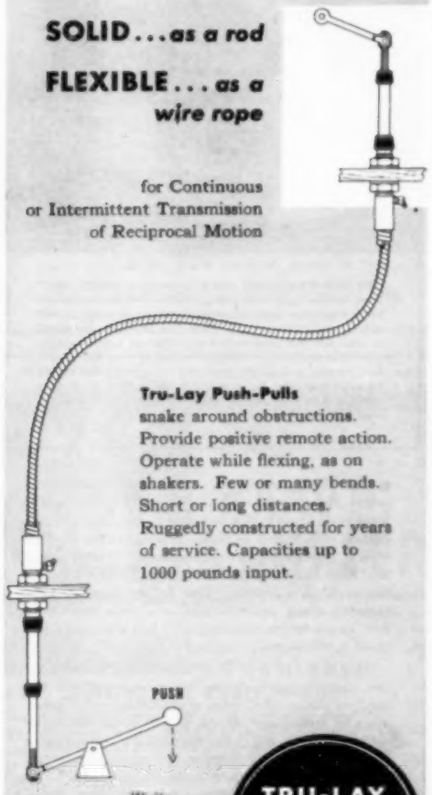
an ACCO product

TRU-LAY PUSH-PULL CONTROLS

SOLID . . . as a rod

FLEXIBLE . . . as a wire rope

for Continuous or Intermittent Transmission of Reciprocal Motion



Tru-Lay Push-Pulls snake around obstructions. Provide positive remote action. Operate while flexing, as on shakers. Few or many bends. Short or long distances. Ruggedly constructed for years of service. Capacities up to 1000 pounds input.

Write our Detroit office today for DH-287

TRU-LAY PUSH-PULL CONTROLS

ACCO
AUTOMOTIVE AND AIRCRAFT DIVISION
AMERICAN CHAIN & CABLE
601 Stephenson Bldg., Detroit 2
2475 Porter St., Los Angeles 21 • Bridgeport, Conn.

▼ BREVITY—Identify by IEN - 1561 If you write the maker ▼

PRESS . . Hand operated hydraulic for laboratory use, rates to 30 ton

Source: WABASH METAL PRODUCTS CO.
1567-71 Morris St., Dept. IEN, Wabash, Ind.

Lever operated pump

Stroke is 6 in. and maximum opening is 20 in. for this new Model 30-11 press. The 11-in. platens, circular in section, are electrically heated. Clearance between the columns is 14 in. and overall height of the press is 4 feet.

Temperature to 600 deg. F. is maintained by a bimetallic regulator and is read on a millivoltmeter. A selector switch enables the operator to read temperature in either platen. A pilot light on the control panel indicates correct functioning of the thermostat. The columns are chromium plated and accurately fitted to the platens.

▼ BREVITY—Identify by IEN - 1562 If you write the maker ▼

METALS . . Copper and steel each lead clad for corrosive service

Source: KNAPP MILLS INC.
23-17 Borden Ave., Long Island City 1, N. Y.

Technical booklet upon request

Cupralum and Ferrolum trade name lead-clad copper and lead-clad steel in which the lead is permanently bonded in a new process developed by the company. Cupralum is produced in a process where the lead and copper are drawn simultaneously and the two metals are chemically bonded.

Ferrolum is produced in a lead-cladding machine in which a chemical bond is obtained without requiring any tin. Both combinations of metals are available in sheet, structural shapes and tubing with lead in various thicknesses as required for a given application.

▼ BREVITY—Identify by IEN - 1563 If you write the maker ▼

DRIVE . . Adjustable base for motors with frame size 203 to 505

Source: OVERLY-HAUTZ CO.
11506 Madison Ave., Cleveland 2, Ohio

Delivery from stock

New base is made of $\frac{3}{16}$-in. steel in its longitudinal members and 12-gage steel in the cross members. It is equipped with an adjusting screw and with four anchor bolts and nuts ready to take an electric motor. Each is painted one coat of gray priming lacquer. Usually the bases are shipped in pairs bolted back to back to protect the bolt threads.

Overall length ranges from 14 to 35 in. with width at 11 to 30 in. and height at 1¾ to 3½ inches. Weight ranges from about 11½ to 97½ pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 88

▼ BREVITY—Identify by IEN - 1564 If you write the maker ▼

Stop CORROSION in your Steam System WITH CORAVOL

When fed to your steam system, **CORAVOL**: (1) *prevents* corrosion in steam and condensate lines, (2) *cleans out* clogging rust deposits resulting from previous corrosion. Thus, **CORAVOL** protects lines, increases the effectiveness of heat transfer surfaces, restores original capacity of lines and the operating efficiency of valves and traps.

CORAVOL is part of a complete technical service which provides special chemical formulas for: Boiler Feed Water . . . Foam Prevention . . . Hot Water Supply . . . Refrigerating Brine . . . Cooling and Condenser Water . . . Rapid Scale Removal . . . Coagulation . . . Algae Control.

Write TODAY to Western Chemical Company, 715 Washington Street, Kansas City, Missouri—for complete FREE data about the **CORAVOL** process.

Western Chemical Co. is owner of U. S. Patent No. 2658024 covering the use of volatile amines in steam systems

WESTERN CHEMICAL CO.
715 WASHINGTON KANSAS CITY, MO.

▼ BREVITY—Identify by IEN - 1565 If you write the maker ▼

Send For Your Free Copy

SLIPPING ACCIDENTS?

Write for Booklet A-3

This Free 8-page Booklet Shows You How To End Them with A.W. ALGRIP

ABRASIVE ROLLED STEEL FLOOR PLATE

- A.W. ALGRIP is the world's only Abrasive Rolled Steel Floor Plate.
- Wet or dry, ALGRIP prevents slipping—even on steep inclines!
- Light, tough—thinner sections can be used.
- Easy to install—needs no maintenance.
- Over 1001 plant and product applications—wherever men walk or climb.

THERE'S NEVER A SLIP ON A.W. ALGRIP

A.W. ALGRIP

ABRASIVE ROLLED STEEL FLOOR PLATE
Product of **ALAN WOOD STEEL COMPANY**
Conshohocken, Pa.
Over 125 Years of Iron and Steel Making Experience

Other Products: PIERMASTER Stainless Clad Steel, A. W. SUPER DIAMOND Floor Plate, Plates, Sheets, Strip, Alloy and Special Grades.

▼ BREVITY—Identify by IEN - 1566 If you write the maker ▼

PUTS OUT FIRES FASTER

with ORDINARY WATER

ROCKWOOD TRIPLE-ACTION SG-48 WaterFOG NOZZLE

Rockwood triple-action SG-48 WaterFOG Nozzle a truly all-purpose nozzle that extinguishes and controls fires in flammable liquids and ordinary combustibles with plain water. Protects operator from fumes and heat. Discharges high velocity, WaterFOG, straight stream and low velocity WaterFOG. Available for service on fire hose lines in ¾" — 1" — 1½" and 2½" sizes. Approved by Underwriters' Laboratories, Inc., and Factory Mutual Laboratories.

Write for complete information and prices on Rockwood's growing family of portable fire fighting products.

ROCKWOOD SPRINKLER COMPANY
40 HARLOW STREET WORCESTER 5, MASS.

Portable Fire Protection Division . . .

▼ BREVITY—Identify by IEN - 1567 If you write the maker ▼

GOOD NEWS ABOUT WHEELS

NEWS! About how 44 centers and only 22 bearings give a choice of 144 sizes to 12" x 4".

NEWS! About American Steelite® light-weight champs—weighing up to 9 pounds less than ordinary wheels.

NEWS! About American Tread-Lock method—the tread is *Rolled On So It Won't Roll Off!*

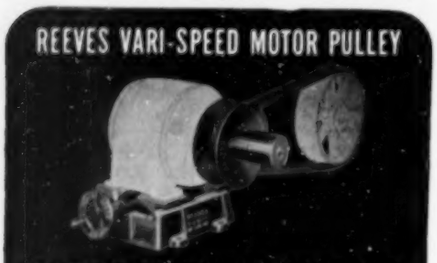
NOW! Get all this NEWS in the NEW bulletin on American Industrial Wheels, from:

THE AMERICAN PULLEY COMPANY, Phila., Pa.

THE AMERICAN PULLEY COMPANY
4240 WISSAHICKON AVE., PHILA. 29, PA.
Gentlemen:
I want the NEWS about Wheels—rush me your new American Steelite® Wheel Bulletin.
Name_____
Firm Name_____
Address_____
City_____ Zone_____ State_____

BREVITY—identify by IEN - 1568 if you write the maker

REEVES VARI-SPEED MOTOR PULLEY



CONVERTS ANY CONSTANT SPEED MOTOR TO A "STEPLESS" VARIABLE SPEED DRIVE!

For Stepless Speed Adjustability Within 6:1 Range. Sizes to 30 Horsepower

1 Mount Your Motor on This Reeves Motor Base. Base includes sliding platform and handwheel for moving motor forward or back.

2 Apply This Disc Assembly to Motor Shaft. Consists of two cone-shaped discs, one sliding laterally, and compression spring.

3 Connect to Driven Machine with Reeves V-Belt. Place V-belt between discs and over pulley on power input of driven machine.

For complete details, send for FREE Catalog 1N116-G.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

Recognized Leader in the Specialized Field of Speed Control Engineering

BREVITY—identify by IEN - 1569 if you write the maker

SAVE Maintenance AND Towel Costs WITH

Sani-Dri ELECTRIC Hand or Hair Dryers

Save valuable maintenance time and eliminate continuing towel expense. New, improved features make Sani-Dri faster drying . . . provide quick, automatic hand or hair drying service 24 hours a day year after year! Sani-Dri is a permanent solution to washroom sanitation and drying problems—and SAVES UP to 85% of WASHROOM COSTS!

ELIMINATES TOWEL EXPENSE . . . SAVES MAINTENANCE

ELIMINATES FIRE HAZARD!

All Sani-Dri Electric Dryers are GUARANTEED, and have carried the Underwriter's Seal of Approval for over 18 years!

SEND FOR NEW BROCHURE showing all models and installation pictures.

Distributors in Principal Cities

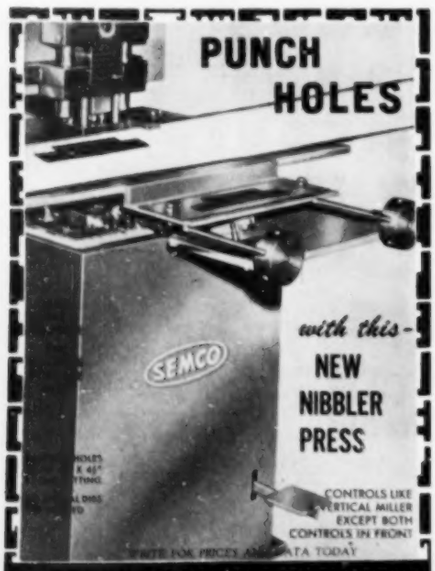
THE CHICAGO HARDWARE FOUNDRY CO.

"Dependable Since 1897"

3422 Commonwealth Ave. • North Chicago, Ill.

BREVITY—identify by IEN - 1570 if you write the maker

PUNCH HOLES



with this - NEW NIBBLER PRESS

CONTROLS LIKE VERTICAL MILLER EXCEPT BOTH CONTROLS IN FRONT

WRITE FOR PRICES AND DATA TODAY

SERVICE MACHINE COMPANY

200 MILLER STREET, ELIZABETH 4, NEW JERSEY

For Your Special Information

ALL MAKERS ARE LISTED — IEN S-2

We offer a bit of advice in connection with your use of Thomas' Register in which all makers are listed. Actually the Register amounts to a dictionary of the names and addresses of all the manufacturers in these United States. Finding what you want in it, however, is not quite so simple as using a dictionary. This is principally because so many products are known by different names in different parts of the country and by different manufacturers who try to name the things they are making to distinguish them from all similar others. It is necessary to know how the Register is set up and that it actually identifies given products.

Accordingly we suggest you take a little time just to leaf through the pages and study the listings until you become familiar with them in general. Try a dozen examples of various products, perhaps off the beaten track of motors and pumps and gears. First thing you know you will have the "hang" of the big book. From then on you will have little trouble finding whatever it may be you need. Let us know if you cannot find a given item and we will help locate it for you.

WHAT DO YOU THINK? — IEN S-3

We quote from a letter written by the advertising representative for a machine tool builder: "My client has pointed out certain disturbing aspects of the promotion of foreign machine tools, promotion that has been aided by publishers who have provided no-charge writeups on so-called 'new' equipment from abroad. Millions of our taxpayers' dollars have been poured into Europe under ECA to help restore war-ravaged plants. This rehabilitated industry is now turning out machines to compete with ours. We then give our friends across the water choice precision tools of our make despite the critical shortage which prostrates our own production. Finally . . we pay taxes that blot out our own profits but keep the foreign businesses alive and well. I suggest that publishers tighten their definition of 'new' as applied to the foreign equipment. Most American manufacturers . . expect the publicizing of really new products."

U. S. SAVINGS BONDS — IEN S-4

We quote John W. Snyder on the subject of savings bonds: "American Business has consistently supported the Payroll Savings Plan during the past ten years and made it a success. Continuation of this cooperation with the Treasury is most essential . . to assist in checking inflation, in preserving economic stability, in furthering the overall defense effort.

Top Management: YOUR BOOST IS NEEDED MOST

BREVITY—identify by IEN - 1571 if you write the maker

FAWICK ROTORSEALS

Performance Proved in THOUSANDS OF INSTALLATIONS

Machine problems requiring transmission of air or liquids from stationary to rotating machine members are best solved with FAWICK ROTORSEALS.

Precision ROTORSEALS are available in single and multiple passage units, insuring dependable sealing of air, liquids or gases under pressure. They are equally effective in vacuum applications and may be operated continuously or intermittently in either direction.

FAWICK AIRFLEX CO., INC.

9919 CLINTON ROAD • CLEVELAND 11, OHIO

For complete information on a FAWICK ROTORSEAL to suit your specific application, write to the Home Office, Cleveland, Ohio

FAWICK Airflex

INDUSTRIAL CLUTCHES AND BRAKES

BREVITY—identify by IEN - 1572 if you write the maker

SURE CURE FOR METAL SHORTAGES

Switch to PLASTICS.. The Quality Substitute for...

NAMEPLATES

Here is a practical way to avoid delays in production due to metal shortages. Substitute plastics for items like nameplates which can be fabricated advantageously to your exact specifications.

Sillcocks-Miller specialists offer the experience and facilities to develop and produce quality nameplates and other parts for which plastics are a practical substitute material.

It will pay you to write for details or submit specifications for quotation.

The SILLCOCKS-MILLER Company

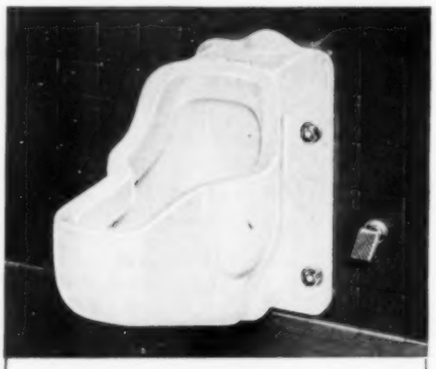
Pioneers in Plastic Fabrication since 1910

23 W. Parker Ave., Maplewood N. J.

BREVITY—identify by IEN - 1573 if you write the maker

Now Available...

a new wall-hung model of the Sanistand urinal for women



THIS NEW SANISTAND urinal has the same features which have made regular Sanistand fixtures so outstanding. Its large bowl, extended lip, slanted rim and convenient 18-inch height tend to discourage misuse. The new style Sanistand is available with hand or foot operated valve and features the siphon vortex water action with flushing rim which empties bowl quickly and quietly, rinses the inside of the fixture and prevents splashing. Because it is made entirely of genuine vitreous china it is easy to clean and keep clean. Comes in choice of attractive colors.

● The Sanistand fixture—the American-Standard urinal for women—has already proved successful for contributing to the sanitation, convenience, and general appearance of public rest rooms for women. Now it is available in another model which reduces rest room maintenance still more. Because the new Sanistand is wall-hung there are no floor obstructions to clean around. You can clean the entire floor in one unbroken sweep . . . quickly, easily and much more thoroughly than before.

This new model of Sanistand fixture is typical of the many contributions American-Standard has made to the advancement of sanitation and convenience in public rest rooms. If you would like more information on the Sanistand fixture and on other American-Standard fixtures for modern, sanitary public rest rooms, just write to American Radiator & Standard Sanitary Corporation, Dept. IEN-2, Pittsburgh 30, Pennsylvania.

American-Standard

First in heating . . . first in plumbing

Serving home and industry: AMERICAN-STANDARD · AMERICAN BLOWER · ACME CABINETS · CHURCH SEATS · DETROIT LUBRICATOR · KEWANEE BOILERS · ROSS HEATER · TONAWANDA IRON

▼ BREVITY—Identify by IEN - 1575 If you write the maker ▼

YOU CAN FILTER FASTER

AT LESS COST

with Titeflex

The Titeflex method of using *permanent* membranes provides filtration areas and permits flow rates *unequalled* by other filters of similar sizes. In addition, the Titeflex special backwash system lessens downtime by cleaning out all residue automatically, without manual labor. These and other exclusive Titeflex features give users *more convenience* in handling a difficult mechanical problem. If you use filters, get the facts about Titeflex.

SEND FOR THIS FREE BULLETIN

Clearly shows Titeflex advantages, lists sizes, capacities and filtra-tion areas of all models. Write today for free copy.

TITEFLEX, INC.

506 FRELINGHUYSEN AVENUE NEWARK 5, N. J.

▼ BREVITY—Identify by IEN - 1576 If you write the maker ▼

DRILL ANY SIZE HOLE IN ANY MASONRY MATERIAL with Carbide Tipped

Cyclo-Core FOR HARD CONCRETE using rotary type drill with pressure applied.

Drills holes ¾" dia. and up. Removable Cyclo-Center accessory allows precision locating and starting of hole without use of wooden template.

Cyclo-twist FOR SOFT and MEDIUM MASONRY MATERIALS using electric rotary drill, drill press or hand brace.

Drills holes 3/16" to 1" dia. up to 36" deep. Dust removing spiral flutes run from cutting edges to shank end.

Thunderbolt FOR HARD or VERY HARD MASONRY MATERIALS using electric or pneumatic hammer

Drills holes 3/16" to 1¾" dia. up to 18" deep. Carbide tip withstands shock and wear. Taper proportioned to withstand crystallization.

SEND FOR NEW MASONRY DRILL BIT GUIDE — "Helps you choose the RIGHT bit for EACH job."

New England Carbide TOOL CO., INC.

60 BROOKLINE STREET, CAMBRIDGE 39, MASS.

▼ BREVITY—Identify by IEN - 1577 If you write the maker ▼

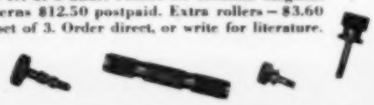
NEW The HANDY KNURLER

Save set-up time, operations and parts...Use Handy Knurler for individual knurling jobs — also for certain types of production work.

HAND OPERATED LIKE A PAIR OF PLIERS

HANDY KNURLER is used with lathe or drill press. Or hold work in vise and rotate Knurler around it. Concentric and off-center surfaces knurled with precision. Worn and undersized armature shafts, axles, spindles, pins enlarged to permit parts to be re-used. Knurled surfaces may be machined. Deep-cut grooves retained to hold lubricants.

★ Quality heat-treated steel, blued for rust-protection. No other tool like it. Knurler complete with set of 3 knurl rollers for medium diagonal patterns $12.50 postpaid. Extra rollers — $3.60 for set of 3. Order direct, or write for literature.

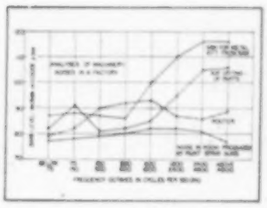


M.P.A. CO., 1678 W. 17th PL., LOS ANGELES 6, CALIF.

▼ BREVITY—Identify by IEN - 1578 If you write the maker ▼

TESTING . . Electronic instrument to analyze complex sources of noise

Source: GENERAL RADIO CO. 273-77 Massachusetts Ave., Cambridge 39, Mass.



What made that noise?

Octave-Band Noise Analyzer Type 1550-A is a new assembly of electronic equipment designed to operate from the output of a standard sound-level meter such as the company's Type 1551-A or Type 759-B. With this analyzer it is possible to sort out individual causes making up an overall complex noise pattern such as the various types of equipment in a plant or a crowd of vehicles passing on a street. Loudness, speech interference level, articulation index, aircraft comfort level, sound transmission of building walls, are examples of conditions that can be analyzed and studied.

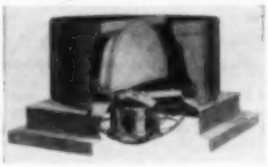
Eight pass bands are provided between low and high-pass filter extremes, each of the middle six covering about an octave in width between an overall of 75 and 4,800 cycles. Initial rate of attenuation beyond cut-off of the band-pass section is about 50 decibels per octave.

Standard assembly includes a battery to supply the operating current. A power supply can be provided to specification at a list price of $120 for ac. operation. The analyzer itself with the battery lists at $535.

▼ BREVITY—Identify by IEN - 1579 If you write the maker ▼

VENTILATING . . Power exhauster discharges bad air, fumes through roof

Source: SWARTWOUT CO. 18521 Euclid Ave., Cleveland 12, Ohio



2,000 to 70,000 cfm.

The air stream set up by the motor-driven fan in this new Whirlout roof ventilator opens two half-disc dampers and holds them open in vertical position while the fan exhausts air and fumes from the space being served. When the fan stops, the dampers close over a ring that forms the throat of the fan and also provides for drainage outward under the cylindrical ventilator housing. The square base beneath this housing provides for assembly on a roof. The motor is totally-enclosed ball-bearing design with assembly inside a wire cage or on a bridge-type mounting. The fan blades are made of aluminum in replaceable assembly.

Ten sizes provide throat diameter measuring 16½ to 60 in., overall housing diameter of 24½ to about 73 inches. Overall height is about 22 to 50 inches. Construction is in 24 to 18-gage galvanized steel in standard design.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1580 If you write the maker ▼

STEAM FOR HEAT OR PROCESS

A complete steam plant backed by undivided responsibility • Shipped completely assembled • More than 80% thermal efficiency guaranteed • 4-pass design provides 5 sq. ft. of heating surface per b.h.p. • Built-in induced draft eliminates need of expensive chimney • Simple installation • Clean, quiet operation • Heavy-duty construction assures long-lived dependability.

Superior Steam Generators are manufactured in 18 sizes from 20 to 600 b.h.p. for pressures up to 250 p.s.i. or for hot water heating.

For complete details, write for Catalog 217

SUPERIOR COMBUSTION INDUSTRIES, Inc.

Factory: Emmaus, Pa.

Eastern Offices: Times Bldg., Times Sq., New York N. Y.

SUPERIOR STEAM GENERATORS

▼ BREVITY—Identify by IEN - 1581 If you write the maker ▼

ELECTRIC TACHOMETERS

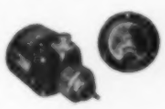
Simplified RUGGED Design

HAND MODEL

Small size and light weight — ideal for any shop and production test application. Precision made, sealed ball bearings, and the elimination of wearing parts assure constant accuracy. Models from 0-2,400 RPM + 800 RPM, 5,000, 15,000, and 25,000 RPM. $42.50 and up.

PORTABLE MODEL

Measures any rotating speed with sustained accuracy for production and laboratory use. Three-range expanded scale: 0 to 1,000, 1,000 to 2,500, 2,500 to 5,000 and other models up to 20,000 RPM. Stability assured with no contacts, brushes or batteries to wear out. Accuracy ½, 1 or 2% of full scale. $71.00 and up.



MOUNTED MODEL

Non-directional or indicating forward or reverse speeds in any required range up to 25,000 RPM. Available with SAE fittings and base mount. Calibrated to your exact needs. Completely enclosed and protected against moisture and dirt. $42.00 and up.

Special models made for any specific requirements

ELECTRO-MECHANO CO.

269 E. Erie St., Milwaukee, Wis.

▼ BREVITY—Identify by IEN - 1582 If you write the maker ▼

Want continuous or intermittent production cutting? Need accuracy of a few thousandths with no burr and minimum kerf? Want to cut bars, rounds, angles and odd shapes at lowest possible cost? Then, get a Kalamazoo Band Saw!

Three sizes are available for cutting 6" to 12" round and from 6" x 10" to 12" x 20" flat. All models can be had with casters for complete portability. Each model has many exclusive features which assure *better cutting at lowest cost.* Write for complete details.

MACHINE TOOL DIVISION

Kalamazoo TANK and SILO CO.

211 HARRISON ST., KALAMAZOO, MICHIGAN

▼ BREVITY—Identify by IEN - 1583 If you write the maker ▼

Uneven Floors . . . Narrow Aisles . . . Sharp Turns . . . Heavy Loads . . . Long Hauls . . . Rough Handling . . .

there's a Bond Built-for-the-job CASTER designed especially for your service needs!

● Send for catalog K-38 illustrating and describing the complete line of Bond Industrial Truck Casters.

BOND FOUNDRY & MACHINE CO.

304 Penn St.

Manheim, Pa.

BREVITY—Identify by IEN - 1584 If you write the maker

Pump Materials DIRECT From Original Containers!

Alemite Versatal Equipment allows fast, easy handling of liquids and semi-solids . . . from paint to putty.

• Air operated Versatal Pumps dispense materials directly from original bulk drums!

• Hydraulic pressures deliver materials through as much as 1000 feet of hose or pipe!

FREE a book of ideas on how Alemite Versatal Equipment can help solve your material handling problems. Address your request to Alemite, Dept. B-22, 1850 Diversey Parkway, Chicago 14, Ill.

ALEMITE Versatal

Another Product of Stewart-Warner

BREVITY—Identify by IEN - 1585 If you write the maker

Forget fuel worries

with IRON FIREMAN GAS-OIL Combination Firing

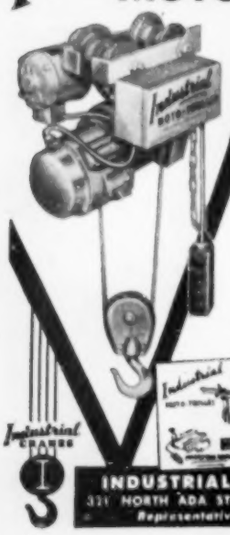
Change from one fuel to another in a matter of minutes

Here's double economy for your plant. Iron Fireman's gas-oil combination protects you against costly shutdowns due to emergency fuel shortages—saves money by taking advantage of special seasonal rates in many areas. Gas burner is a high-pressure ring type burner. Fires either natural or mixed gases with top efficiency. The Iron Fireman Rotary Oil Burner is designed to fire No. 6 oil or lighter. Fits all types of high or low pressure boilers and industrial applications. (Capacities up to 500 boiler horsepower). Write for detailed information and specification charts.

IRON FIREMAN
MANUFACTURING COMPANY
3176 WEST 106TH STREET CLEVELAND 11, OHIO

BREVITY—Identify by IEN - 1586 If you write the maker

Industrial MOTO-TROLLEY



MAY BE ATTACHED TO YOUR STANDARD ELECTRIC HOIST . . .

ADJUSTABLE TO ACCOMMODATE WIDE VARIETY OF BEAM SIZES

• Crown-treed machine steel wheels with hardened drivers.

• Each wheel equipped with double-row precision ball bearings and removable-head axle with Alemite grease fittings.

• Powered by a crane-duty high-torque totally enclosed motor of 30 minute 55 degree rating.

• Magnetic contact panel has transformer to reduce voltage in single speed push button control circuit.

• 4-button control station operates single speed trolley and hoist motions.

Write for Literature

Industrial CRANES

INDUSTRIAL EQUIPMENT CO.
321 NORTH ADA STREET CHICAGO 7, ILLINOIS
Representatives in Principal Cities.

BREVITY—Identify by IEN - 1587 If you write the maker

STRIPPING . . Plier type tool cuts and strips wire insulation

Source: WOOD SPECIALTY MFG. CO.
919 Taylor Ave., Rockford, Ill.

Sample for quantity users

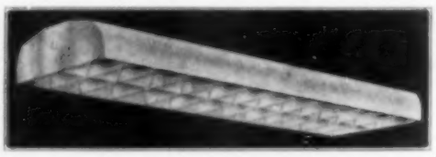
Heavy-duty design has been added to the company's line of plier-type wire-stripping tools, previously described IEN-5165-44. The new unit is known as Speedex Automatic 766-I. It employs a delayed-action release to prevent the wire from being crushed or bent. The stripping action is a continuous motion as the operator closes the handle to grip the wire, cut the insulation and strip it free.

Stranded wire from No. 8 to No. 22 gage or solid wire in the same range can be handled. Parallel wire can be stripped as well as 300-ohm TV and FM twin transmission wire after changing the blade.

BREVITY—Identify by IEN - 1588 If you write the maker

LIGHTING . . Fluorescent fixture designed to take two 40 watt lamps

Source: PITTSBURGH REFLECTOR CO.
453 Oliver Bldg., Pittsburgh 22, Pa.



For drafting rooms, large offices

Norwin is a new white fluorescent fixture equipped with an egg-crate louver that hinges open when lamp maintenance and cleaning are required. The louver provides 25-deg. crosswise and 35-deg. lengthwise shielding. The housing is made of steel finished in white. Dimensions are 48¼ by 17 by 5 inches. The unit can be surface or pendant mounted, individually or in a continuous row.

BREVITY—Identify by IEN - 1589 If you write the maker

RESEARCH . . 15th annual report describes research work done in many fields

Armour Research Foundation
33-37 W. 33rd St., Chicago 16, Ill.

1951 report commemorates 15 years of research activity by the Foundation. The 56-page booklet, available upon letterhead request, describes the work done during the year and on other activities grouped under headings of engineering mechanics, materials and processes, physics and electrical engineering, international industrial research.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1590 If you write the maker

Towsley INDUSTRIAL FLOOR TRUCKS

for Every Materials Handling Purpose

No. 421. The "50 Line" for department, food stores, supply houses, hotels.

No. 680. "Selector Truck" may be equipped with variety of upper trays, shelves for special application.

No. 509. All steel "All-Welded" general purpose, push handle both ends, adjustable shelves.

No. 791. Side dump with automatic couplers fore and aft for pulling in train.

No. 384. The "200 Line" level top general purpose truck — "All-Welded" steel frame—pipe push handles.

There's an economy-wise, manpower-wise way with Towsley Trucks! If you have a specific handling problem requiring special purpose equipment, let "Towsley give you a lift." For details write for Bulletin No. 50.

No. 786. Trailer type box truck with running gear mounted for perfect trailing.

TOWSLEY TRUCKS, INC., 1756 Elmore St., Cincinnati 23, O.

BREVITY—Identify by IEN - 1591 If you write the maker

CANNON PLUGS

. . . standard components on fine electrical and electronic equipment. After 33 years of building electrical specialties, Cannon Electric continues to pioneer new and better types of connectors, maintaining its reputation for progress and development. In the 13 major type series of connectors will be found most of the requirements for quick disconnection of electrical circuits. For a survey of the general line, write for *Condensed Catalog*.

UA SERIES
(Ultimate Audio Connectors)
THREE 15-AMP. CONTACTS

Latest development in the connector phase of audio engineering is the new series of microphone and sound circuit connectors designed and built by Cannon Electric to RMA Committee requirements and standards. Briefly, following features should be noted: (1) *Safety latchlock* (2) *Shockproof* (3) *FULL-Floating Socket Contacts* (4) *Splashproof* (5) *Steel plug shells* (6) *Rubber sleeve for cable relief* (7) *Grounding Contact* (8) *Gold plated 15-amp. contacts for low loss.*

Address Cannon Electric Company, P. O. Box 75, Lincoln Heights Station, Los Angeles 31, Calif. Factories in Los Angeles, New Haven and Toronto. Export: Frazar and Hansen, San Francisco. Representatives in principal cities.

SINCE 1915

CANNON ELECTRIC

BREVITY—Identify by IEN - 1592 If you write the maker

WHY "sweat it out?"

WHEN Conveyors will move it faster . . . cheaper

How many material handling jobs are you still doing the hard way? How many precious man hours, dollars and minutes are you spending to move materials from here to there?

Whether it's bags, boxes, barrels, bales or bulk . . . whether it's unloading, loading, transporting, lifting or lowering, chances are that a Lippmann Conveyor or combination of them will show substantial savings in time, men and money.

Lippmann is headquarters for all kinds of conveyors, and 28 years of manufacturing and application experience. Lippmann engineers are ready and eager to help you solve your material handling problems. A card or letter will bring prompt and sincere attention to your regular or special requirements.

LEW LIPPMANN ENGINEERING WORKS
4633 W. Mitchell St., Milwaukee 14, Wisconsin

BREVITY—Identify by IEN - 1593 If you write the maker

IS THERE A "BEST CHOICE" IN LOCKS?

You bet there is . . . and it's DUO and ILLINOIS locks . . . with hundreds of styles and sizes in cabinet locks for wood or metal installations available for original equipment applications.

DUO LOCKS—Finest in lock quality—practically unlimited key specifications—virtually pick-proof—non-duplicatable style keys.

ILLINOIS LOCKS—Economy priced cylinder locks—many key changes—construction avoids failure due to dirt or freezing. Illinois lock engineers are always ready to cooperate with you in working out special locking problems. For complete service, call Illinois first.

ILLINOIS

THE ILLINOIS LOCK COMPANY
808 S. ADA ST. • CHICAGO 7, ILL.

BREVITY—Identify by IEN - 1594 If you write the maker

AERO-SEAL WORM-DRIVE HOSE CLAMPS

WON'T SHAKE LOOSE!

Wherever you have to clamp a hose connection tight . . . or wherever you want to lock two objects of any shape together in an unshakeable bond . . . your best bet is AERO-SEAL.

Threads of steel worm engage deep into slots in stainless steel band — hold tight under extreme vibration in automotive, aircraft and industrial applications. CAN'T SHAKE LOOSE.

One-Hand Installation

Install on Aero-Seal any place you can reach with thumb and one finger. Self-feeding when band engages worm threads. Thumb-grip and screwdriver types.

Re-use Again and Again

When hose is worn you RE-USE the same Aero-Seal again and again. RE-USE Aero-Seals on temporary clamping jobs—they conform to any shape without damaging band.

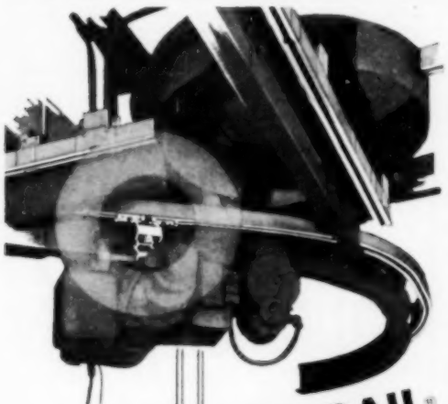
ALL AERO-SEALS HAVE STAINLESS STEEL BANDS

"Aero-Seal" WORM DRIVE HOSE CLAMPS

ANOTHER BREEZE PRODUCT

BREEZE CORPORATIONS, INC.
41 South Sixth St. Newark, N. J.

BREVITY—Identify by IEN - 1595 If you write the maker



ELECTRIC FEEDRAIL

Flexibility

Simplifies
Plant
Problems

Feedrail system provides the power for a monorail hoist with slide switches and turntable in a sewerage disposal plant in Brooklyn, New York.

Feedrail is a flexible system of electrical distribution. It powers small or large hoists with equal ease. Mobile power trolley outlets supply power to crane or hoist. It's a simple problem to power a hoist on a curve, slide switch, transfer, turntable or spur run. Easily and quickly installed it provides a safe, dependable power source and requires little or no maintenance.

Feedrail offers new freedom in planning plant layout and production schedules. Trolleys roll smoothly within the enclosed track and current is immediately available where needed. Trolleys are added in a matter of minutes without shutting off the power to break "bottlenecks" at overloaded work centers. This flexibility is a vital factor in lowering costs and raising production volume.

Write for literature.

Sold by leading electrical distributors. 46-D

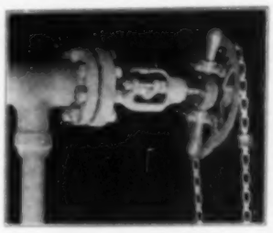
ELECTRIC FEEDRAIL

Never Becomes Obsolete
FEEDRAIL CORPORATION
Subsidiary of Russell & Stott Company, Inc.
125 BARCLAY STREET · NEW YORK 7, N. Y.

BREVITY—Identify by IEN - 1597 If you write the maker

VALVE . . Impact operator for valves located in remote positions

Source: EDWARD VALVES INC.
1235 W. 145th St., East Chicago, Ind.



Strikes hammer blow

Impactor Handle is a new assembly of chain wheel and adaptor hub to apply on valve stems finished square on their ends to 11/16 and 13/16 inch. The assembly employs lugs on the underside to strike blows against lugs of the adaptor which is secured to the valve stem. The resulting impact closes the valve tightly or assists in breaking it loose to move in opening direction. A length of chain loops over the hand wheel, permits operation of valves installed from 10 to 50 ft. above floor level.

BREVITY—Identify by IEN - 1598 If you write the maker

LAYOUT . . Scale size models of equipment, personnel and products

Source: COMET METAL PRODUCTS CO.
91-06 132nd St., Richmond Hill 18, N. Y.

Bulletin shows stock items

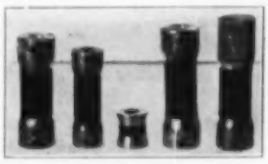
The company announces addition of several new subjects to its line of scale models of plant equipment, products and personnel for layout purposes. New tubing trucks, special reels and racks have been made for a bearing manufacturer. New Army trucks and tanks are now being produced for an automotive manufacturer who has converted for defense production.

Normally the scale is ¼ in. per foot. The tanks were made on special order to ⅛ in. per foot. Each model is characterized by its close approximation of the actual full-size machine so any unit on a layout is readily recognizable when the layout is photographed for record purposes.

BREVITY—Identify by IEN - 1599 If you write the maker

DRIVE . . Flexible coupling, rubber body and die cast drive ends

Source: GUARDIAN PRODUCTS CORP.
1217 E. 2nd St., Michigan City, Ind.



For original equipment

New design in the company's line of flexible shaft couplings initially developed for application in oil burners is now available for specified use by equipment manufacturers. Capacities are from 25 to 550 watts at 1,750 rpm. This corresponds to approximate ratings of ⅛ to ¾ hp. on a 110-volt circuit. Length is between 1 and 8 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

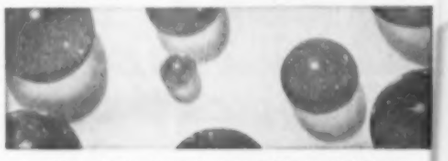
BREVITY—Identify by IEN - 1600 If you write the maker

KERLOW STEEL FLOORING CO.
23 Mallory Ave., Jersey City, N. J.

BREVITY—Identify by IEN - 1601 If you write the maker

BREVITY—Identify by IEN - 1602 If you write the maker

NOW — Precision Balls of Synthetic Sapphire



These balls of synthetic sapphire, polished to within 20 micro-inches of sphericity, are resistant to wear, heat, and corrosion. In many applications they need not be lubricated.

Available in 1mm, 1/16 inch, ⅛ inch, and ¼ inch sizes, and in three surface finishes.

PROPERTIES

Coefficient of Friction	0.140
Hardness (Knoop)	1525-2000
Dielectric Constant	7.5-10
Modulus of Rigidity	21.5-27.5 x 10^6 psi
Thermal Coefficient of Expansion at 50°C (per°C x 10^6)	5.0-6.7
Chemical Resistance	Unaffected by acids, dilute alkali.

Call or write any LINDE office for information on these balls or the other forms of synthetic sapphire.

LINDE AIR PRODUCTS COMPANY
A Division of Union Carbide and Carbon Corporation
30 East 42nd St. UCC New York, 17, N. Y.
In Canada: Dominion Oxygen Company, Limited, Toronto

BREVITY—Identify by IEN - 1603 If you write the maker

JOHNSON wide-rehandling clamshell

EASY-CLOSING

big-diameter sheaves, with sealed-in needle bearings, reduce friction losses, deliver full power to cutting lips. Light weight, sturdy bucket assures big payload performance in loose materials.

ALL-WELDED

smooth, fast cleaning. Hard manganese cutting edge welded to lips toughens with use. 10 Wide Rehandling sizes: ⅓ - ½ - ¾ - 1 - 1¼ - 1½ - 1¾ - 2 - 2½ and 3 cu. yds.

Other Johnson types: General-Purpose and Heavy-Duty Digging.

MAIL TODAY

for C. S. JOHNSON Co. CHAMPAIGN, ILLINOIS (Kaskaskia Subsidiary)
Send complete facts on ___-cu. yd. Wide Rehandling Clamshell Bucket.
NAME
COMPANY
STREET
CITY, STATE

BREVITY—Identify by IEN - 1604 if you write the maker

PORTELVATOR®
(THE HANDY HAMILTON PORTABLE ELEVATING TABLE)
LIFTS — LOWERS — LEVELS
TRANSPORTS

Eliminates "ganging-up" on heavy lifts. Reduces occurrence of industrial accidents. Eliminates the need for extra hands, extra trips.

STANDARD MODEL CAPACITIES TO 5000 POUNDS

SAFETY of OPERATION is inherent in the **PORTELVATOR** mechanical lift principle, which transmits power through worm, worm gear, and screw.

TAKE TIME TO LEARN THE DIFFERENCE
WRITE FOR BULLETIN P-508

THE Hamilton TOOL COMPANY
905 HANOVER STREET • HAMILTON • OHIO • U • S • A

BREVITY—Identify by IEN - 1605 if you write the maker

SPEED HAND-LABELING ON HARD-TO-LABEL JOBS with

Mystik Self-Stik LABELS

SPEED PRODUCTION—No moistening. Stick instantly.

EASY APPLICATION on hard-to-reach, hard-to-label surfaces.

FLEXIBLE and stretchable for curved or uneven surfaces.

PERMANENT—Resistant to stain, moisture, scuffing, delamination. Removable, if desired, without staining.

BEAUTIFUL—Finest color printing; die-cut, embossed, varnished or acetate laminated.

The outstanding qualities of MYSTIK LABELS are due to rubber-saturated stock and the strongly bonded rubber adhesive, providing strength, flexibility, toughness, strong adhesion and ease of handling. Write for full information and samples.

CHICAGO SHOW PRINTING COMPANY
CHICAGO • NEW YORK

2644 NORTH KILDARE • CHICAGO 39

BREVITY—Identify by IEN - 1606 if you write the maker

Superior Information about SHAPED TUBING

Superior draws for small tubing in dozens of standard and some specialized designs in scores of analyses. But because of Defense Orders and metal shortages we may not be able to supply your immediate needs.

If you need shaped tubing with a MAXIMUM CIRCUMFERENCE of 2", tools may be available at Superior for its production. Please include a print or sketch showing dimensions, radii, tolerances, analyses and temper when you inquire.

For information about Superior's ability to cold draw round or shaped tubing, write for Bulletin #32. It gives production limits, standard tolerances and analyses regularly available. Superior Tube Company, 2016 Germantown Ave., Norristown, Pa.

Superior
THE BIG NAME IN SMALL TUBING

All analyses .010" to 3/8" O.D.
Certain analyses (.033" max. wall) up to 1-3/8" O.D.

West Coast:
PACIFIC TUBE COMPANY, 5110 Smithway Street, Los Angeles, Calif., UNdarhill 0-1331

BREVITY—Identify by IEN - 1607 if you write the maker

TESTING . . Universal machine for Rockwell and Brinell hardness test

Source: METALLURGICAL INSTRUMENT CO.
2452 W. 38th St., Chicago 32, Ill.

Made in Italy

The company announces availability in the United States of the Model A-200 Galileo hardness tester. It is characterized by its optical projection of Rockwell readings on a dial in the head at the top of the assembly. Loads are selected by turning a knob on the side of the housing. A built-in hydraulic damper controls speed with which the load is applied. Adjustment is made by a screw on the housing side.

Any type metal can be tested for hardness in the A to F Rockwell scales by direct reading. Vickers measurements can be made by using a pyramid-diamond penetrator and a special microscope to read the diagonals of the impression. Standard equipment includes two test specimens, four anvils and two steel-ball penetrators.

BREVITY—Identify by IEN - 1608 if you write the maker

SWITCH . . Position holding design, plunger operated, 20 amp., 110 volt ac.

Source: GENERAL CONTROL CO.
1210-B Soldiers Field Road, Boston 34, Mass.

The fingers latch

Initial depression of the operating plunger in this new Type-ACO switch transfers the contacts from either normally open or normally closed. When the plunger is released and again depressed the contacts are restored to original position. They hold in these positions until the switch is again operated.

The contacts are single-pole double-throw design. Mounting is by means of a ½-in. threaded bushing in a panel opening or the assembly can be made on a top or side panel with clearance holes for No. 6-32 screws. Overall dimensions are about 2 by 1⅛ by 2¾ inches. A cover is provided to enclose the operating parts.

BREVITY—Identify by IEN - 1609 if you write the maker

PLATING . . Available processes summarized by set of data sheets in folder

Hanson-Van Winkle-Munning Co.
100 Filbag St., Matawan, N. J.

Seventeen sheets are included in revised edition of the bulletin, "H-VW-M Electroplating Processes." They present typewritten information on solution preparation, type of deposit produced, type of solution, operating conditions, equipment required, applications.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1610 if you write the maker

IT'S TIME TO ACT FAST!

Reach Anyone Instantly

Boost Output

Cut Costs

SAVE TIME WITH
ELECTRONIC
AMPLICALL
INTERCOMMUNICATION

Gear up now for bigger output and increased efficiency. AMPLICALL provides 2-second speech contact between all departments for fast relay of orders and information. Stops wasteful walking and waiting — keeps plant and office personnel on the job every working minute — takes the load off busy switchboards. AMPLICALL gets *more work done for every operations dollar spent* — pays for itself quickly. Get the full details today.

SEE YOUR CLASSIFIED PHONE BOOK under "Intercommunication" for your AMPLICALL specialist, or write us direct

Electronearing is our business

SOUND EQUIPMENT — Rauland — INTER-COMMUNICATION

RAULAND-BORG CORPORATION • 3523-K ADDISON ST., CHICAGO 18, ILL.

BREVITY—Identify by IEN - 1611 if you write the maker

Modern Design SPEEDS PRODUCTION

● Ames micrometer dial indicators are the most modern available today — and naturally so because Ames policy for over 50 years has been continually to improve design, to take advantage of new materials and to utilize the most advanced manufacturing methods. They are a real aid to the quality control engineer who is trying to keep pace with today's high production schedules.

Because Ames Indicators are functionally designed, they have fewer parts than ordinary indicators. Construction is simple with functional parts being larger and more rugged and adequately supported. Operational friction is at a minimum. Thus, Ames Indicators combine extreme sensitivity and accuracy with the ability and endurance *to stay right on the job longer.*

✓ Check this list of features
1 Forged Solid Brass Case and Stem
2 Heavy Brass Plate
3 Coarse Pitch Stainless Steel Rack
4 Hardened and Burnished Steel Pinion
5 Dials Printed from Steel Engravings
6 Patented Bezel Assembly

Representatives in principal cities — B. C. AMES CO. 27 Hunt Street, Waltham 54, Mass.
Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

BREVITY—Identify by IEN - 1612 if you write the maker

NATIONAL ELECTRIC

E. M. T. FITTINGS

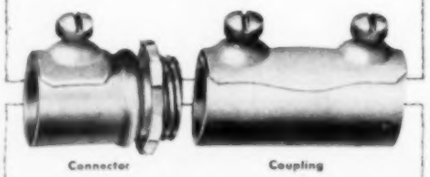
ARE

Vibration-proof

AND

EASY TO INSTALL

IN CLOSE QUARTERS



Connector — Coupling

A screwdriver is all you need to install these simplified one-piece, pressed-steel connectors and couplings (½" and ¾" sizes). Steel overlap at screw increases pressure—assures close, accurate fit—makes NE Fittings vibration-proof!

LOOK AT THESE ENGINEERED FEATURES

Easy to inspect.
Permanent ground.
Close, accurate fit.
Electro-galvanized throughout.
Uniform, safe holding action.
No wrench strains on boxes.

Listed by Underwriters' Laboratories, Inc.
Sold through leading electrical wholesalers.

EVERYTHING IN WIRING POINTS TO

National Electric
PRODUCTS CORPORATION
1352 CHAMBER OF COMMERCE BLDG.
PITTSBURGH 19, PA.

▼ BREVITY—Identify by IEN - 1614 if you write the maker ▼

WESTERN FELT:

Your Insurance Against Complaints

Felt is not "just felt." There is a vast difference in its manufacture and efficiency. Because Western Felt for over fifty years has not, and will not, depart from its policy of maintaining the highest possible quality in material and manufacture, its products wherever they may be employed, are your insurance against product complaints due to a Western Felt component part. It ranges from wool softness to rock hardness—never loses shape—does not ravel or fray—resists oil, water, heat, age—resilient, flexible, compressible—may be cut to extremely close tolerances—unsurpassed in uniformity. 102F

WESTERN FELT WORKS
4035-4117 Ogden Avenue, Chicago 23, Illinois
BRANCHES IN ALL PRINCIPAL CITIES
Largest Independent Manufacturers and Cutters of Wool Hair and Jute Felts

▼ BREVITY—Identify by IEN - 1615 if you write the maker ▼

TYGON plastic PAINT

STOPS ACID AND ALKALI ATTACK

Maintenance Men! You can stop corrosion before it starts — protect your plant and equipment from chemical attack — with TYGON plastic PAINT — the positive protective coating. Properly applied, TYGON offers the maximum possible in resistance to both acids and alkalies — and, to oils, greases, water and many solvents as well.

TYGON requires no more than normally good surface preparation — can be applied by brushing or spraying. TYGON dries fast — forms a tough, flexible film that's easy to clean and long-lasting. TYGON is available in wide range of colors — in quart, gallon, 5 gallon, and 55 gallon containers.

Try TYGON — buy TYGON, today, or write for full details and samples.

Plastics and Synthetics Division

U. S. STONEWARE
AKRON 9, OHIO

307C

▼ BREVITY—Identify by IEN - 1616 if you write the maker ▼

DEPENDABLE ACCURATE CONTROL OF PROCESS EQUIPMENT WITH THE NEW... *Bell Switch* CONTROL

HERE is help for liquid level control problems. The new Bell Switch Control incorporates a snap-action magnetic proximity switch which is actuated by a float operated magnetic armature. Gives you accurate control and automatic cutoff of such equipment as limit controls, scrubbers, separators and also can furnish high and low stage alarms. Especially suitable for use with highly corrosive fluids. There is virtually no liquid level control problem that can't be solved with this dependable, low maintenance Bell Switch Control. A number of standard and special mounting styles available to meet particular requirements.

- √ No Packing Boxes, Bellows or Diaphragms to worry over and replace
- √ Rugged Spun Steel Body
- √ Eliminates False Action due to Turbulence
- √ Standard or Explosion Proof Cover Available
- √ Mechanism Completely Isolated from Corrosive Fluids
- √ Switch Rating: 10 amps. at 110 volts, 5 amps. at 220 volts, A.C. Direct loads to ¼ h.p. A.C. ratings

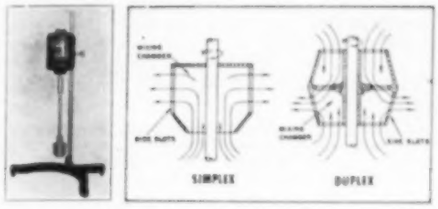
WRITE TODAY FOR COMPLETE DESCRIPTIVE LITERATURE

JO-BELL PRODUCTS, INCORPORATED
4840 So. St. Louis Ave. • Chicago 32, Illinois
Liquid Level Controls • Carburetors • Magnetic Switches • Special Controls

▼ BREVITY—Identify by IEN - 1617 if you write the maker ▼

MIXING . . Motor driven rotor for liquid mixing and shearing action

Source: PREMIER MILL CO.
218 N. Genesee St., Geneva, N. Y.



Action is smooth, fast, thorough

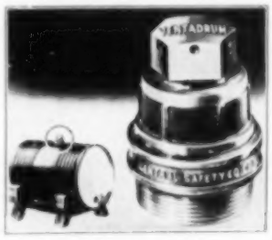
Dispersator trade names new mixing equipment available in the laboratory model shown in the illustration and also in larger units for portable application and for side mounting in stationary assembly in a tank. As the rotor revolves it sets up centrifugal action to draw liquid into its open ends and to force it out through shearing slots under considerable pressure. Two rotor designs provide single and double actions as shown in the illustration.

The laboratory unit is driven by a ½-hp. motor and is designed for control for any speed to 8,000 rpm. It employs a ½-in. shaft and mounts on a 30-in. column that stands vertically on a cast-iron rubber-equipped base. The portable assembly is equipped with a 3-in. rotor and is driven direct by a 1½ hp. motor operating at 3,450 rpm. This motor is hollow-shaft design and is equipped with a mounting clamp. The rotor shaft can be adjusted axially for tanks or containers of varying height. The horizontal assembly employs a 5-hp. motor chain connected to the shaft, equipped with sealed bearings and seals to prevent axial flow of the liquid.

▼ BREVITY—Identify by IEN - 1618 if you write the maker ▼

VALVE . . Pressure relief design to safely vent volatile liquid drums

Source: CENTRAL SAFETY EQUIPMENT CO.
2202 E. Huntington St., Philadelphia 25, Pa.



Available on rated orders

Ventadrum trade names a new valve to thread into the side bung on a drum holding a volatile liquid. It permits air to enter the drum upon any decrease in liquid volume. It permits air to escape slowly when the liquid expands on normal temperature change. It jets the vapors outward through 6 vents when any quick temperature change causes sudden pressure build up within the drum.

It reseats and shuts off the vapor flow when pressure has been relieved. It operates in upright position, closes and prevents all flow of liquid or vapor if the drum is turned over. It includes a built-in screen to prevent any flame travel into the drum. Weight is about 2 pounds. Overall height is 3½ inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1619 if you write the maker ▼

BACKED BY 50 YEARS OF "KNOW HOW"

It's NICE to be Sure!

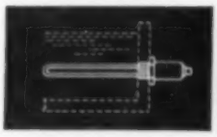
STANDARD and SPECIAL BALL BEARINGS Since 1902

OUR 50TH ANNIVERSARY 1902-1952

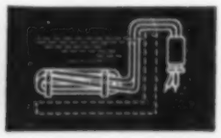
NICE BALL BEARING COMPANY
NICETOWN PHILADELPHIA PENNSYLVANIA

▼ BREVITY—Identify by IEN - 1620 if you write the maker ▼

High-speed, easily-installed LIQUID HEATING with G-E Calrod* immersion heaters



Accurately-controlled G-E heaters are available in a wide range of sizes, shapes, ratings and sheath materials for "screw-in" or . . .



"over-the-side" installation. Thermostatic control will assure you of accurate temperatures and minimum power consumption.

ACCURATE HEATING of water, oil, plating baths, and other liquids is easy with Calrod heaters. Immerse them *directly in the liquid* for maximum heat transfer with minimum heat losses.

FREE BULLETINS, GEA-5545, "Handy Selector Guide for Calculating Your Own Heating Requirements—Complete Catalog of Heaters and Devices, GEC-1005—and "Heating Liquids with Electric Heaters," GEA-5077, will help you select and apply the heaters best suited to your jobs. Write Sect. 720-65, General Electric Co., Schenectady, N. Y.

* Registered Trademark

GENERAL ELECTRIC

▼ BREVITY—Identify by IEN - 1621 if you write the maker ▼

***Assure a Free-Cutting Wheel* IN GRINDING OPERATIONS WITH Delpark COOLANT FILTERS**

Attrition in grinding operations is reduced to a minimum by Delpark Full-Flowing, Self-Cleaning Coolant Filters. Complete and continuous filtration of the coolant as it comes from the work removes heat bearing solids, prevents loading of the wheel. A free-cutting wheel assures greater accuracy, speeds production with less wheel dressing, longer wheel life. Two to several hundred gallons per minute capacities.

- Fully automatic • No down time for cleaning reservoir • Extends coolant life • Uniform coolant temperature

Delpark
INDUSTRIAL FILTRATION
Backed by 30 Years Experience in Industrial Filtration

Write for more complete information

INDUSTRIAL FILTRATION COMPANY
5111 Industrial Avenue • Lebanon, Indiana

▼ BREVITY—Identify by IEN - 1622 if you write the maker ▼

SUPERSENSITIVE BALANCER!

***New* CROWN BALANCING WAYS**

NO CENTERING NEEDED!

- Eliminates trial and error method of detecting "heavy spots" in rotating parts. Free turning discs, mounted on ball bearings insure least friction and highest possible sensitivity. Load Capacities of 400 to 5000 lbs., swing 10" to 60". Easily portable.

Gives Quick Static Balance of ARMATURES FLY WHEELS CRANKSHAFTS FANS, etc.

WRITE FOR DETAILS

CROWN INDUSTRIAL PRODUCTS
402 Barden Avenue
Sycamore, Ill.

Please send catalog data and prices on CROWN Balancing Ways

Name _____
Company _____
Address _____
City _____ Zone ____ State _____

BREVITY—Identify by IEN - 1623 if you write the maker

Hole Accuracy to .0005"

H & K PERFORATED SCREENS

Screens used in grain testing require an extreme accuracy of diameter for round holes and for dimensions of slotted perforations. Here H & K screens test only ±.0005 variation in diameter of all the holes per screen. Such accuracy is a part of everyday H & K production.

H & K Screens may also be had to specifications as to kind and temper of metal—or in plastics, rubber, fabrikoids, etc., practically any sheet, coil or plate material. Your inquiry, regardless of specifications, is invited for recommendation and prices.

Remember—H & K Grilles of Beauty for your ornamental applications.

The Harrington & King Perforating Co.

5637 Fillmore Street, Chicago 44, Illinois
114 Liberty Street, New York 6, N. Y.

BREVITY—Identify by IEN - 1624 if you write the maker

Now More Positive Protection than Ever Before with the New FLEX-A-FOAM FILTER MASK

Newly designed for maximum comfort and efficiency, it's easier to breathe through and talk through than an ordinary pocket handkerchief . . . yet filters non-toxic dusts as small as 1/25000 of an inch!

- Extremely light in weight—just one ounce complete.
- Self-adjusting to every face size—no interference with eye glasses.
- Simple sturdy design—only four interlocking parts.
- Only respirator made with long-lasting washable filter—outwears throw-away type as much as 100 to 1.

Dust Protection your workers will welcome and Wear

FLEX-A-FOAM FILTER MASK

Sample $1.40 postpaid

Write for new descriptive folder

THE GOGGLE PARTS COMPANY • CLEVELAND 13, OHIO

BREVITY—Identify by IEN - 1625 if you write the maker

REZNOR world's largest selling gas unit heater

. . . YOUR HEATING IS FULLY MECHANIZED—TEMPERATURE IS Automatically MADE, DISTRIBUTED, CONTROLLED with TOP EFFICIENCY

You can have Reznor units installed fast and with surprisingly low cost. Set thermostats and forget heating. Customers, employees enjoy comfort because heat is made on the spot and directed where it does the most good. Reznor uses all types of gases with economy. Heating equipment takes less space. Get the information you want now.

REZNOR MANUFACTURING CO.
18 UNION ST. • MERCER, PENNA.

Send me 20-page catalog in full color

Name
Firm
Address
City Zone State

IDEAS FOR YOU

Items of particular interest in the news other than straight new products, development pointing toward the future, unusual procedure to accomplish a point, suggestions for practical action, each to provide ideas for you.

IEN - 1626

Want to learn more about spray painting? You can by attending or sending your representative to the free DeVilbiss school sessions. Each lasts a week, is conducted at the company's plant in Toledo. Coming dates are Feb. 11, Mar. 24, Apr. 21, May 19, June 23. Application form on request.

IEN - 1627

Keeping records for income tax purposes is a tough job, particularly for those who must travel and entertain and make their records "on the run". The job is simplified a lot when the traveler uses a Melton Expense Book with detachable summary pages. The book measures 3 by 5 inches. It is sold in 12 monthly or 52 weekly units and a zipper cover. List is $3 and $5.

IEN - 1628

A remarkable booklet has been published by Personal Products Corporation to set up a basis for mutual understanding and good will between itself and its suppliers. It is titled, "Principles of Good Source Relations". Twenty points are made in little paragraphs to list the company's responsibilities to its suppliers. Ten points cover the suppliers' responsibilities to it.

IEN - 1629

Precision castings, made by the investment process, now can employ Bakelite styrene plastic as the disposable pattern material. This material is injection molded to produce the pattern. Then it is coated with fine silica sand, mounted in a flask and packed with more sand and ethyl silicate. The plastic pattern is melted out in a furnace. It leaves the cavity for the final casting bound by hydrolized ethyl silicate. Bakelite can outline the sequence for you.

IEN - 1630

Steel casting process, developed by Stroh Process Steel Company, employs a tough steel alloy over a base of plain carbon steel in manufacture of large gears, trunnions, sheaves that must operate without splitting, cracking, spalling, spreading or flowing. A combination spindle and coupling box for a steel rolling-mill stand saved its user $700 over a six-month period. The combination unit, measuring about 6 ft. in length by a foot in greatest diameter, cost $140, gave six months of service.

IEN - 1631

Air is excluded from the surface of molten zinc in a galvanizing bath for wire by floating a new Dewey and Almy liquid chemical on the metal. Zinc oxide cannot crust the surface. Spattering is minimized where the work enters and where new pigs are added.

BREVITY—Identify by IEN - 1632 if you write the maker

NOW AVAILABLE, the NEW MOBILIFT 3500 pounder Lev-R-Matic DRIVE FORK LIFT TRUCKS

Created to Meet a Demand

Illustrated—STAND-UP MODEL "H-W" — 3,500-lb. capacity on 15" load center. Mast Ht. 83" (Free Lift 56", Lift Ht. 108", Mast Ht. 136"). Outside turning radius 63½", inside turning radius Zero. Also available with standard 63" and 72" Masts.

MODEL "H" 3,000-lb. capacity available with 63", 72" and 83" Masts.

This is the new model MOBILIFT engineers developed to meet specific needs in all types of industry to help speed production and cut handling costs.

Not a single MOBILIFT maneuverability feature found in the smaller models has been sacrificed in this versatile model.

EXCLUSIVE FEATURES:
- LEV-R-MATIC CONTROLS. Push-Pull levers—No gears to shift.
- MOBIL-CHAIN LIFT. Unobstructed view between uprights.
- MOBILIFT AIR COOLED 3-CYL. ENGINE.

WRITE TODAY for complete specifications on this new "H" series.

MOBILIFT Lev-R-Matic DRIVE

MOBILIFT CORPORATION
835 S. E. MAIN • PORTLAND 14, OREGON
CHICAGO • E. RUTHERFORD, N. J. • ATLANTA • BERKELEY • DALLAS

BREVITY—Identify by IEN - 1633 if you write the maker

SKINNER STAINLESS STEEL SOLENOID VALVES

Small size — Rugged — Large capacity

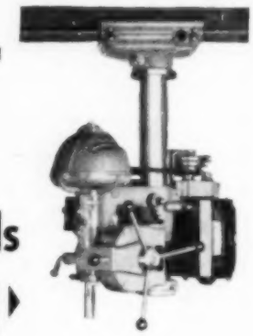
The small size of Skinner Solenoid Valves belies their rugged construction and unusually large capacity. These valves have a standard range from 5 to 250 p.s.i., and a special range from 5 to 850 p.s.i., and can be used for gaseous or liquid media. Their soft insert seat prevents leakage and positive action is assured by spring loading. Skinner Valves may be used in any position, with pipe connections furnished to suit specifications. Power consumption is 10 watts max. Special coils for high humidity or high temperature applications can be supplied. Standard models are approved by Underwriters' Laboratories.

Write for Bulletin No. 501

SKINNER ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
139 Belden Ave., Norwalk, Conn.

BREVITY—Identify by IEN - 1634 if you write the maker

Reduce setup and machining time with WALKER-TURNER Drill Heads



Overhead Drill Assembly — 20" Walker-Turner Drill Head is mounted on a sliding carriage. Ball bearings provide easy lateral movement. Head may be swung in a complete circle.

Designed to operate in any position

Two Drill Heads Working at Once—to rough grind lens blanks to specified curvature. Not only is machining time reduced, but duplicate operation insures required accuracy.

Multiple Mounting — "In-line" arrangement of 20" Drill Heads can speed output on many jobs where a series of holes are to be drilled, tapped, reamed or counter-bored in a single piece.

Your Walker-Turner Distributor will be glad to demonstrate the flexibility of these production tools. Let him show you how Walker-Turner 14" and 20" Drills are designed to increase production—*in more ways than one!*

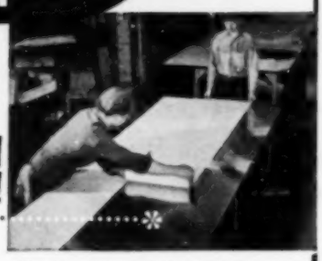
SOLD ONLY THROUGH AUTHORIZED DEALERS

WALKER-TURNER
walker-turner
KEARNEY AND TRECKER CORPORATION
PLAINFIELD, N. J.

DRILL PRESSES • RADIAL DRILLS • TILTING ARBOR SAWS
BELT and DISC SURFACERS • METAL-CUTTING BAND SAWS
METAL-SPINNING LATHES • SPINDLE SHAPERS • JOINTERS

▼ BREVITY—Identify by IEN - 1636 if you write the maker ▼

Mystik Protecto-Mask



SAVE that polished surface!

Here's sure protection for those expensive, highly polished surfaces—stainless steel, aluminum, plastics, many more!

• Keep them protected during *fabrication, storage, in shipment.* • MYSTIK Protecto-Mask is *Self-Stik* . . . goes on easily from the roll to surface, peels off easily. Leaves no residue. • Protects against scratches, and production damage . . . cushions blows . . . shields against splatter from welding arc. Can be used for layout and diagramming.

Ask your supplier or write for full information and sample. Mystik Adhesive Products, 2644 N. Kildare, Chicago 39.

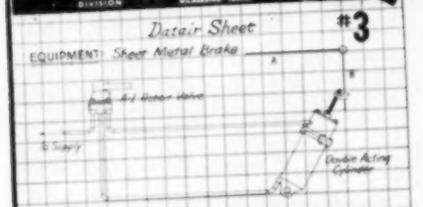
▼ BREVITY—Identify by IEN - 1637 if you write the maker ▼

Ideas for Engineers

INDUSTRIAL PRODUCTS DIVISION WESTINGHOUSE AIR BRAKE COMPANY WILMERDING, PENNA.

Data Sheet #3

EQUIPMENT: Sheet Metal Brake



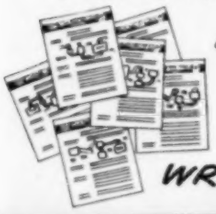
APPLICATION: Operate Sheet metal brake "A". A-1 Repair valve controls double acting cylinder which operates brake leaf "B". "Lap" feature permits the lifting of leaf "B" and stopping of operating cycle to check alignment before completing bending operation.

SOLUTION: Westinghouse A-1 Repair Valve and Westinghouse Double Acting Cylinder installed.

RESULT: Manual foot operation of brake eliminated. Operator provided with complete control of device through complete cycle of operation. Production increased. Accuracy of work improved.

And, again AIR Solves the Control Problem!

Here's another example of a Control Problem—quickly and practically solved through the use of W A B Pneumatic devices. Thousands more can be solved just as quickly through different applications and combinations of W A B equipment. Our Engineering Data File will provide you with some practical cases. Sections of it may apply to your problems. Write for your copy. No cost to you.



FREE

This Engineering Data File

WRITE

INDUSTRIAL PRODUCTS DIVISION WESTINGHOUSE AIR BRAKE COMPANY WILMERDING, PENNA.

Factory Branch: EMERYVILLE, CALIF.
Distributors throughout the United States . . . Consult your Classified Directory. Distributed in Canada by: Canadian Westinghouse Co., Ltd., Hamilton, Ontario.

IDEAS FOR YOU—Continued

▼ IEN - 1639 ▼

Thermister is a tiny actuating element made of metal ceramics by the powdered-metal process. It is backward acting in that it decreases in electrical resistance as temperature is increased. Carboloy expects to offer it shortly for use in instruments, relays, gages, controls.

▼ IEN - 1640 ▼

Charles H. Keller of Hopcraft-Keller Inc. has made reprints of an editorial, "If I Were Benjamin Fairless," as written by Peter F. Hurst of Aerosquip Corporation. It suggests what Fairless could say to Phil Murray in the steel wage situation. Want a copy?

▼ IEN - 1641 ▼

Smart thinking by Electro Tec Corporation results in the company's announcement of a new laboratory it has established at Ormond Beach, Florida. It is for experimental and development work, will be manned by technical experts who are retired and are living in the vicinity.

▼ IEN - 1642 ▼

Curved metal shapes, in any ductile metal, in lots of 100 to 100,000 pieces, at low die cost, accurate and ready for assembly, are available from Cyril Bath Company. The company has set up a production line of the forming equipment it makes normally for sale. Channels, locking rings, tank parts, cowling with curves in one or more planes, roof caps, tunnel rings are typical examples.

▼ IEN - 1643 ▼

Osborn wire brush mounted on a drilling-machine spindle rotates under control of a pneumatic feed cylinder and timer to clean out the interior of a propeller hub and smooth the peaks left by a shot-peening operation. It produces an excellent finish, eliminates need for honing equipment that would have cost about $20,000.

▼ IEN - 1644 ▼

"I Work at AMF" reads a new decalcomania supplied by American Machine and Foundry to each employee to mount on his automobile for parking-yard identification. It is sufficiently large to be seen at a distance and, in addition to providing admission to the yard, it has attracted new workers to the plant. It carries the company name wherever the worker drives his car.

▼ IEN - 1645 ▼

Service life for a diesel locomotive was increased over normal by 85,000 miles following application of a graphiting process on the cylinder liners. Electrofilm, owner of the patents, is licensing equipment makers and users to employ it. The company also is establishing processing plants to operate in the principal centers on a contract basis.

▼ IEN - 1646 ▼

Proctor & Schwartz Inc. handles and ships millions of feet of finned tube in the course of its operations. It needed a means to protect the tube so the fins would not be dented or bent. Accordingly it has developed and patented a process that results in a paper tube with a rip cord. The company will license others to manufacture the tube.

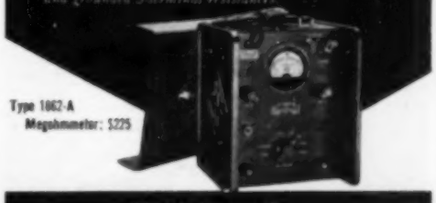
▼ BREVITY—Identify by IEN - 1647 if you write the maker ▼

GR *NEW a-c operated* megohmmeter

½ to 2,000,000 Megohms

with Constant 500 Volts Across Unknown

A portable, rugged instrument designed for both field and laboratory use — many operating conveniences — ideal for insulation resistance measurements on rotating electrical machinery, cables, transformers, capacitors, household appliances — very simple to use, the value of the unknown resistance being indicated as the product of the meter reading and one of the 6 multiplier settings — guard terminals provided for measuring ungrounded and grounded 3-terminal resistances.



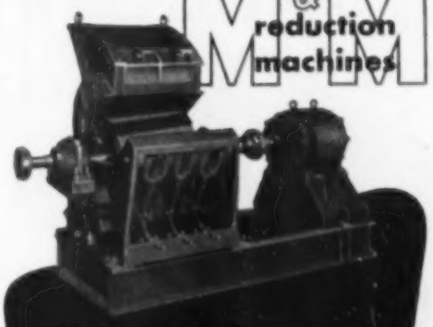
Type 1862-A Megohmmeter: $225

Write for Complete Data

GENERAL RADIO Company 275 Massachusetts Ave. Cambridge 39, Mass.
90 West St. NEW YORK 6 920 South Michigan Ave. CHICAGO 5
1000 North Seward St. LOS ANGELES 38

▼ BREVITY—Identify by IEN - 1648 if you write the maker ▼

M&M reduction machines



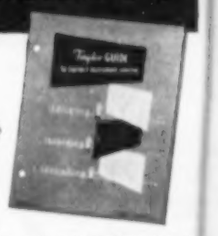
M & M Reduction Machines are rapidly gaining favor in industry for converting wasts to uniform size for easy handling and in many cases into valuable by-products. Cut your disposal costs with an M & M Reduction Machine. Send us your problems.

MITTS & MERRILL
1014 South Water • SAGINAW, MICHIGAN

▼ BREVITY—Identify by IEN - 1649 if you write the maker ▼

CAN'T FIND THE RIGHT INSTRUMENT?

You need this Taylor Guide



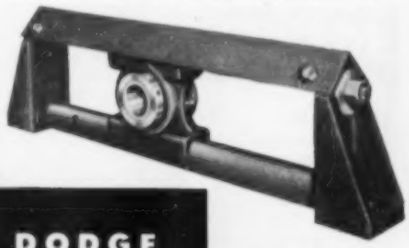
Here is a basic guide to all of Taylor's conventional instruments for indicating, recording and controlling almost any process variable: temperature, pressure, humidity, flow, liquid level, load, speed and density. A special section discusses special function instruments such as time-schedule, pneumatic set, etc.

Keep it handy as a reference whenever you're considering instrumentstion. Write for Bulletin 98170, Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada.

Instruments for indicating, recording and controlling temperature pressure, flow, liquid level, speed, density, load and humidity.

TAYLOR INSTRUMENTS MEAN ACCURACY FIRST

▼ BREVITY—Identify by IEN - 1650 if you write the maker ▼



DODGE TAKE-UPS

— THEY'RE MODERN
— 7 TYPES
— ASK ABOUT THEM!

MODERN, rugged, *dependable!* A great range of types and sizes—for everything from light loads to heavy loads. Babbitted, Bronzoil, SC Ball Bearing, Dodge-Timken Type E Roller Bearing, Angle Frame, Protected Screw. Shaft sizes from 1/2" to 4". Travel from 4" to 48". Stocked by Dodge Distributors. Write us for details.

DODGE MANUFACTURING CORPORATION, 800 Union St., Mishawaka, Indiana

DODGE
of Mishawaka, Ind.

FIRST IN POWER TRANSMISSION MACHINERY

BREVITY—Identify by IEN - 1651 if you write the maker

NOW A WIDE RANGE OF AIR PRESSES

Cut Costs...

These presses deliver from 4 to 28 times the air line pressure, cost from $27.50 to $135.00, and will pay for themselves many times over in faster, more uniform production on light skating, crimping, assembling jobs. Write for new catalog of air cylinders and other air-operated devices.

MEAD SPECIALTIES COMPANY

41 R NO. KNOX AVE., DEPT. EA-22, CHICAGO 41, ILL.

BREVITY—Identify by IEN - 1652 if you write the maker

For Faster Assemblies use a

"YANKEE"

Quick-Return Spiral Screw Driver

Quick-Return Style Nos. 130A, 131A, 135

Standard Style (without Quick Return Spring) Nos. 30A, 31A, 35

A push on the handle and the screw is off to a spinning start! Up with the arm and the driver is ready for the next push. Constant spring pressure keeps the bit in the screw slot. This quick-return feature of the "Yankee" Spiral Screw Driver helps one hand do the work of two, easier and faster.

Ask your Industrial Supply Distributor about these and other "Yankee" Tools that put an extra push into every job.

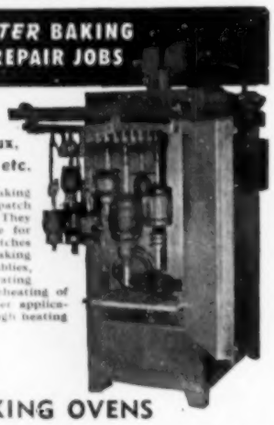
Write today for the "Yankee" Tool Book

"YANKEE" TOOLS NOW PART OF STANLEY — THE TOOL BOX OF THE WORLD

NORTH BROS. MFG. CO.
Philadelphia 33, Pa.

BREVITY—Identify by IEN - 1653 if you write the maker

50% FASTER BAKING ON REPAIR JOBS



Ideal for Synthetic Films, Dulux, Lacquer, Enamel, etc.

You can often cut baking time up to 50% with Despatch R S Batch Type Ovens. They are extremely adaptable for finish baking of small batches such as armatures; for baking paints on grills, assemblies, etc.; for drying, dehydrating or core baking; for preheating of plastics, and many other applications where fast, thorough heating is required.

DESPATCH R S Batch Type FINISH BAKING OVENS

They're shipped fully erected and do not require an engineer to set them up. Gas or oil fired, very economical, with working range from 200° to 500° F. Automatic heat control for desired uniform temperature. Sizes from 11 to 90 cu. ft. capacity, all easy to load and unload. When writing for literature, kindly tell us what type of work you have.

Write for Bulletin on R S Ovens.

DESPATCH OVEN CO. Established in 1902

Manufacturers of ovens for: Paint Finishing, Dehydrating, Curing, All Industrial and Laboratory Applications

337 DESPATCH BLDG., MINNEAPOLIS 14, MINNESOTA

BREVITY—Identify by IEN - 1654 if you write the maker

SOLDERING . . Electric iron rates 125 watts, for precision work

Source: KELNOR MFG. CO.
220-24 Kearny St., Dept. "C", San Francisco 8, Calif.

About 11 inches overall

Soldering heat is reached in 48 seconds after closing the circuit from a 110-volt ac. or dc. power source to this new Model-087 iron. It mounts a nickel-plated head at an angle with the nickel-plated handle-equipped shank. In the head is a replaceable heating element and a $\frac{3}{16}$ in. tip, also replaceable. Weight is 10 ounces. Equipment includes a 6 ft. extension cord and plug. The tip can be entered into confined locations.

The iron is particularly suited to solder electrical connections in electronic equipment and apparatus, instruments and in aircraft assembly. List price for the iron with one tip and a stand is about $10. Replace elements list at $4.75 and replacement tips at 65 cents each.

BREVITY—Identify by IEN - 1655 if you write the maker

FURNITURE . . Stainless top on plywood for laboratory installation

Source: FISHER SCIENTIFIC CO.
719 Forbes St., Pittsburgh 19, Pa.

Stock lists on request

The company announces a stock line of stainless-steel tops for tables, cupboards, drawer units in which one piece of stainless steel with an integral splashback and reagent shelf is mounted on thick plywood sections. Edges are a continuation from the upper surface. Adjacent edges are welded. The front edge is rolled and forms a convenient drip edge on the under side. Concealed bolts and neoprene strips close the joints between adjacent units in an assembly.

BREVITY—Identify by IEN - 1656 if you write the maker

TESTING . . New house publication on developments in optical and scientific equipment

Polaroid Corp.
207-11 Massachusetts Ave., Cambridge 39, Mass.

"Polaroid Reporter" is new house publication which presents information on polarized light and its uses, sheet polarizing materials, new developments in equipment, references for detail information. Your name will be added to the mailing list upon request.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1657 if you write the maker

Powdery Snow is Fine for Skiing

Powdery dusts are bad in your plant

Protect workers and equipment with TORIT DUST COLLECTORS

You can shoot along at a great pace when skiing down a slope of powdery snow. In your plant, however, the powdery and abrasive dusts streaming out from grinding, polishing and cut-off machines can make production end up in a bone shattering sitz-mark.

Don't be a slope-dope where your plant is concerned. Equip all your dust-creating machines with Torit Dust Collectors. Then watch the line on your production chart swing into a beautiful *skimark* as it turns upward.

Torit Dust Collectors are available in models and sizes for most industrial installations, and special adaptations can be quickly fabricated. Write today for complete information and the latest Torit catalog.

TORIT Manufacturing Co.
286 Walnut Street St. Paul 2, Minn.

BREVITY—Identify by IEN - 1658 if you write the maker

It's as easy as this to

ISOLATE VIBRATION and SAVE MONEY

with ISOMODE Pads*

Here's the durable mounting to absorb shock...reduce noise ...cut your maintenance costs. In hundreds of installations, the Isomode Pad has proved to be not only one of the most economical mounts, but also one which does a superior job of isolating vibration.

By absorbing forces normally transmitted to floor, Isomode Pads reduce building damage and undue deterioration of machinery. No bolting in most cases.

Made of oil, age- and water-resistant Du Pont Neoprene. Write for details—discover their surprisingly low cost.

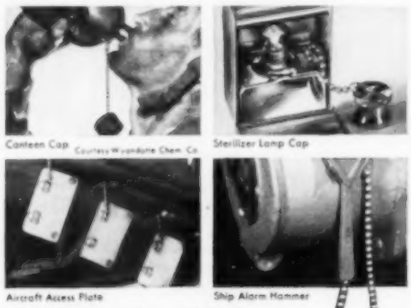
**Trade Mark Reg. U.S. Pat. Off.*

THE MB MANUFACTURING COMPANY, INC.
1064 State St., New Haven 11, Conn.

BREVITY—Identify by IEN - 1659 if you write the maker

Secure LOOSE PARTS with Bead Chain

A MUST for Military Products



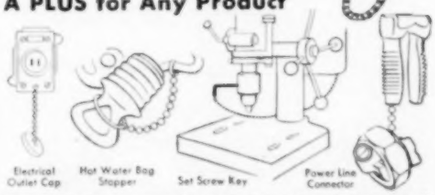
Canteen Cap — Courtesy Wyandotte Chem. Co.

Sterilizer Lamp Cap

Aircraft Access Plate

Ship Alarm Hammer

A PLUS for Any Product



Electrical Outlet Cap — Hot Water Bag Stopper — Set Screw Key — Power Line Connector

When a householder or industrial worker mislays an essential part of your product, he may suffer inconvenience or minor hardship. But, loss of some important small part of military equipment may mean that men are lost, too.

As a positive leash for straying parts, nothing can equal Bead Chain! Non-kinking, free-swiveling action assures full freedom in using the part or tool secured. It is small, light, attractive . . . yet strong enough to hold under abusive strains.

Check your product now! Leash any part that may stray. It costs only a penny or two, as a rule, to add a Bead Chain retainer that's worth dollars as a trouble-saver for your customers.

Kinkless Chain of a Thousand Uses

Design ingenuity can employ Bead Chain in many unique ways to gain new product appeals, please buyers, cut costs. For example: A low-cost non-slip chain drive for business machines, TV tuners, venetian blinds etc. Pulls for electric lights, fans, registers, zippers. Trimming for leather goods, wearing apparel, etc. Suspensions for light bowls and signs . . . and in countless other ways.

Get "Bead Chain" . . . Get 4 Plus Values

As the world's largest producer of Bead Chain, the Bead Chain Company offers you: (1) Dependable quality and delivery. (2) Unmatched application help based on experience with thousands of users. (3) Widest selection of chain sizes, styles, metals, finishes—and attachments to fit every need. (4) Money-saving assembly service which provides made-to-your-order assemblies.

NEW! Bead Chain Catalog-Data Folder. Write today!

BEAD CHAIN®

The Bead Chain Mfg. Co., 59 Mt. Grove St., Bridgeport, Conn.

▼ BREVITY—Identify by IEN - 1661 if you write the maker ▼

BOOST PRODUCTION

COBURN

OVERHEAD CONVEYING EQUIPMENT

Meet today's need for maximum plant production, increased efficiency and faster handling of materials with Coburn Overhead Conveying Equipment. It gives you unobstructed floor space, requires very little headroom, makes it easy to spot work directly over machines. Loads up to 3000 lbs. handled by hand chain or electric hoist; power-operated equipment also available.

For additional information write to Sales and Engineering, 56 Sterling St., Clinton, Mass., or consult your classified telephone directory. Write today for catalog #220.

EAST: Wickwire Spencer Steel Division, Clinton, Mass.
WEST: The Colorado Fuel & Iron Corporation, Denver, Colorado
PACIFIC COAST: The California Wire Cloth Corporation, Oakland, California

COBURN PRODUCTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION

▼ BREVITY—Identify by IEN - 1662 if you write the maker ▼

260
260

Simpson

volt-ohm-milliammeter that outsells all others combined.

260

▼ BREVITY—Identify by IEN - 1664 if you write the maker ▼

CLEANING . . Nickel alloy cloth for scouring dirty metal surfaces

Source: ALUMINUM COOKING UTENSIL CO.
51 Wear-Ever Bldg., Dept. WEN-8, New Kensington, Pa.

About $1

Nickltex trade names a new sleeve-type woven cloth made of nickel-alloy flattened wire that is knitted with a permanent twist into a continuous interlocking mesh. Surface area measures 352 sq. inches.

The cloth can be applied flat, balled, folded or as in shoeshining. It cuts foreign matter from a metal surface. It can be washed in soap and water or cleaned with steam or a solvent. It is corrosion resistant, not subject to attack by most acids and alkalis. It will not cut a worker's hands.

▼ BREVITY—Identify by IEN - 1665 if you write the maker ▼

DRYING . . Vacuum equipment sublimes moisture from frozen materials

Source: F. J. STOKES MACHINE CO.
5956 Tabor Road, Philadelphia 20, Pa.

Primarily for laboratory use

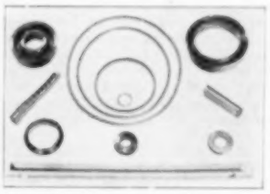
Model 101 is a new miniature assembly of company's freeze-drying equipment, previously described IEN-4110-50. It will dry 35 milliliters of material per run. It mounts a manifold with 24 ports that will handle a maximum of 72 containers at one time.

The equipment employs Cryochem desiccant and silica gel with capacity to dry 140 milliliters of work material before regeneration of the desiccant is required. Containers of the material to be dried are frozen and then are connected to the manifold which is served by a high-vacuum pump. The act of evacuating the containers subjects the material to low pressure at room temperature, causes moisture to sublime to vapor for removal. The vapor is condensed in the refrigerated housing separate from the original material.

▼ BREVITY—Identify by IEN - 1666 if you write the maker ▼

SEALING . . Packings, bushings, seals, of oil resistant rubber compound

Source: ACUSHNET PROCESS CO.
760 Belleville Ave., New Bedford, Mass.



Ask for properties sheet

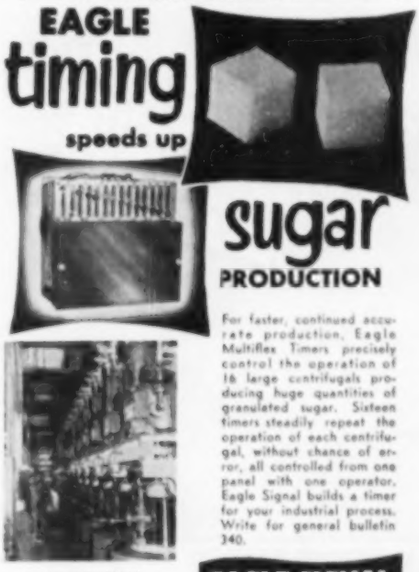
Type X-1692 is a new Buna-N compound, 70 Shore "A" durometer, to retard shrinkage and swelling in contact with oil. The material was developed and parts made of it to meet required conditions in the plant of one of the company's customers. The company is prepared now to manufacture various parts to order in diameters to 36 inches. Typical parts are illustrated.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1667 if you write the maker ▼

▼ BREVITY—Identify by IEN - 1668 if you write the maker ▼

EAGLE timing speeds up sugar PRODUCTION



For faster, continued accurate production, Eagle Multiflex Timers precisely control the operation of 16 large centrifugals producing huge quantities of granulated sugar. Sixteen timers steadily repeat the operation of each centrifugal, without chance of error, all controlled from one panel with one operator. Eagle Signal builds a timer for your industrial process. Write for general bulletin 340.

AN EAGLE TIMER FOR EVERY TIMING PROBLEM!

EAGLE SIGNAL Industrial Timers
EAGLE SIGNAL CORPORATION MOLINE, ILL.

▼ BREVITY—Identify by IEN - 1669 if you write the maker ▼

Corrosite

Protective Plastic Paint – via GRAYBAR

FREE BOOKLET tells why Corrosite protects where other coatings fail

For practical, long-term protection against corrosion, rust, erosion and rot, it will pay you to investigate Corrosite the amazing protective plastic paint now distributed by Graybar.

Vinyl-base Corrosite can be brushed, sprayed or dipped. It dries in one hour (by solvent evaporation) to form a tough, lustrous plastic film that is impervious to acids, alkalies, alcohols and brine.

Corrosite bonds both physically and chemically to most surfaces . . protects metals against chemical and atmospheric corrosion . . seals and waterproofs concrete and masonry.

Full details on Corrosite protective coatings are contained in Corrosite bulletin 201. For your copy write: *Graybar Electric Co., 420 Lexington Ave., New York 17, N. Y.* 208-122

Call Graybar *first* for . . . GRAYBAR Everything Electrical GraybaR Electric Company

▼ BREVITY—Identify by IEN - 1670 if you write the maker ▼

this WALL CHART can SAVE MONEY for you!

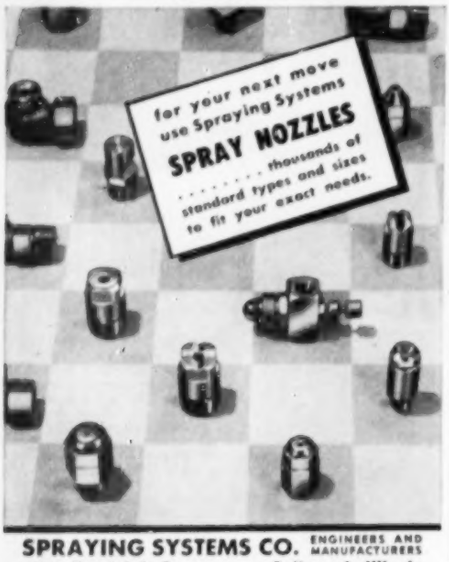
Here's a brand new wall chart guide to selecting hardfacing rods that can help you beat the high cost of wear! Lists over 50 common hardfacing applications . . . recommends the rod to use . . . shows the available sizes and preferred method of application.

If you have a problem of wear caused by impact, abrasion, heat or corrosion, AMSCOATING with Amsco Hardfacing Products can save money for you . . . and this new wall chart tells you where and how!

Write for your free wall chart today!

AMERICAN Brake Shoe COMPANY
AMERICAN MANGANESE STEEL DIVISION
426 EAST 149th STREET • CHICAGO HEIGHTS, ILL.

BREVITY—Identify by IEN - 1671 If you write the maker



SPRAYING SYSTEMS CO. ENGINEERS AND MANUFACTURERS
3208 Randolph Street Bellwood, Illinois
WRITE FOR General Catalog No. 22 . . . or
Pneumatic Atomizing Nozzle Catalog No. 23

BREVITY—Identify by IEN - 1672 If you write the maker

new metallizing gun cuts machine repair costs 85%-90%

Salvaging worn feed roll journal for textile mill

40% faster than older models; produces uniform coatings with minimum operator attention.

The new METCO Type 4E Gun makes metallizing easier to use and a bigger money-saver in industrial maintenance than ever before. With the older types of metallizing guns, constant operator attention was required to maintain oxygen and gas pressures within a close range to obtain uniform coatings. Now, with this new gun, gas pressures are automatically balanced against all normal variations. So little operator attention or skill is required that the gun almost runs itself.

In addition to this advantage, the METCO 4E Gun sprays up to 40% faster than older models. Wire feed is controlled automatically for any wire size from 20 B&S gauge to 1/8 inch, in any metal. Add to these advantages, the recent development of the new metallizing material, Sprabond Wire, which bonds itself to smooth steel surfaces without any mechanical preparation except cleaning. It serves as the perfect preparation coating for spraying with any other finished metal.

repair costs run as low as 10% of replacement cost

Metallizing gets worn parts like these back in service faster and at lower cost than any other method of repair:

Air Compressor Parts	Patterns
Armature Shafts	Pistons
Axle Shafts	Piston Rods
Camshafts	Plungers
Crankshafts	Pump Packing Sleeves
Cylinder Liners	Pump Plungers
Fan Shafts	Roll Journals
Hydraulic Rams	Rolls
Impellers	Spindles
Journals	Squeeze Rolls
Lathe Beds	Turbine Shafts

The following names are the property of Metallizing Engineering Co., Inc.: METCO*, SPRABOND WIRE. *Reg. U. S. Pat. Off.

METALLIZING ENGINEERING CO., INC.
38-13 30th STREET LONG ISLAND CITY 1, N. Y.
In Great Britain: METALLIZING EQUIPMENT COMPANY, LTD. Dickhaw Lane, Woking, England

R. J. McWaters Metallizing Engineering Co., Inc.
38-13 30th Street, Long Island City 1, New York

☐ Please send me more information about the new Type 4E Metallizing Gun.
☐ Please arrange a demonstration in our shop.

NAME
COMPANY
STREET
CITY ZONE STATE

BREVITY—Identify by IEN - 1674 If you write the maker

TRUCK . . Power lift fork design to load and store, 1½ and 1¾ ton

Source: MOBILIFT CORP.
407-11 S. W. 13th Ave., Portland 5, Oregon

The operator stands

Series H and HW are two new units in the company's line of engine-driven fork-lift trucks, previously described IEN-6089-51. Load ratings are 1½ and 1¾ ton respectively. Drive is by the company's three-cylinder air-cooled gasoline engine. Speed is governed at a maximum of 6 mph.

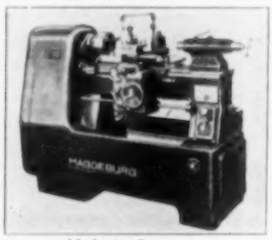
Drive is transmitted through a multiple-disc clutch and the company's Lev-R-Matic drive, which provides the operator with finger tip push-pull control of the truck movements including tilting and elevating.

Turning radius measures about 62 and 64 in. for the two new units. Length without the forks is 71 and 73 inches. Width overall is 38 inches. The drive will lift a capacity load at 50 fpm. Both new units are available with standard 63 and 83-in. uprights.

BREVITY—Identify by IEN - 1675 If you write the maker

LATHE . . Production machine swings 11¾ in., 19½ in. on centers

Source: KURT ORBAN CO.
204 E. 43rd St., New York 17, N. Y.



Made in Germany

The spindle of this new Type D-30 lathe is mounted in plain pressure - lubricated bearings in a headstock cast integral with the bed. Drive is by belt connection to a motor rating 2 to 4 hp. depending on the drive selection. Center hole through the spindle will clear work measuring ⅞ in. in diameter. Swing over the bed is 11¾ in. and over the cross-slide is 6⅝ inches.

The carriage takes tools measuring ⅝ by ⅝ in. in sections. There are four longitudinal feeds between 0.0004 and 0.004 in. per revolution of the spindle. A corresponding four cross feeds are between 0.0002 and 0.002 inch. Electrical controls are enclosed at one end of the bed in accessible position. Coolant equipment can be specified. Spindle speeds are 600, 950 and 1,500 rpm. or in three sets of three steps each in an overall range between 600 and 3,000 rpm.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

FIND WHAT YOU WANT?
See the product index on page 110

BREVITY—Identify by IEN - 1676 If you write the maker

Big Savings at Loading Dock

Mechanise your loading dock
The new Leva-Dock travels up or down to permit loading directly into or unloading from all types of trucks or trailers . . . without using steel plates, bridge ramps or other slow and often dangerous methods.

This hinged ramp is positioned by a hydraulic jack. Retractable supporting arms and laterally adjustable throw-over bridge connect the ramp and truck bed. Platform automatically travels up or down as truck springs are compressed or relieved.

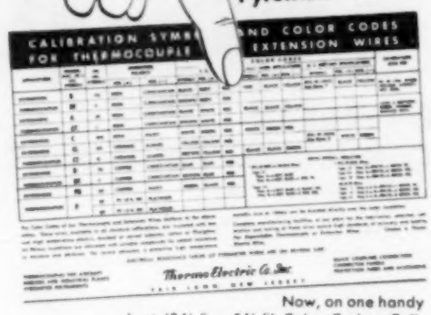
Capacities 5,000 through 20,000 lbs. Scientifically engineered, ruggedly built, powered by famous Rotary hydraulic jack. Simple to install, inexpensive to operate, little or no maintenance.

Write for catalog

Rotary
LEVA-DOCK
ROTARY LIFT COMPANY, 1170 KENTUCKY, MEMPHIS 2, TENN.

BREVITY—Identify by IEN - 1677 If you write the maker

AT YOUR FINGER TIPS
COLOR CODES for Pyrometer Wires



Now, on one handy chart (8½" x 5½") Color Codes, Calibration Symbols, Thermo Elements of Thermocouple and Extension Wires for ISA, U.S. Military and Aeronautical Specifications — Plus — Resistance Tables.

Write Today for your copy. No obligation, of course.

Thermo Electric Co., Inc.
FAIR LAWN, NEW JERSEY

BREVITY—Identify by IEN - 1678 If you write the maker

WITH A COLUMBIA
TONG TEST AMMETER
There is no other instrument like a Tong Test—it measures both A.C. and D.C. Readings are made instantly and accurately.
These outstanding features are yours when you use a Tong Test Ammeter:
- No breaking of circuit
- Operated with one hand
- Safe and convenient to operate
- Light weight—low price
- Scale ranges up to 1000 Amperes
- Voltage attachment available
- Five types to accommodate cables up to 3⅞", bus bars up to 4½" x ½"

Write for Tong Test Bulletin IQ-400

COLUMBIA ELECTRIC MFG. CO.
4519 Hamilton Ave., Cleveland 14, Ohio

BREVITY—Identify by IEN - 1679 If you write the maker

SAVE YOUR OIL, MONEY AND MACHINERY WITH HILCO LUBRICATING AND INDUSTRIAL OIL MAINTENANCE EQUIPMENT

A COMPLETE LINE OF EQUIPMENT FOR RECLAIMING, FILTERING, PURIFYING AND RE-REFINING OIL

★ Hilco units are available for continuous or batch operation. You can keep your lubricating and industrial oils clean and recover large quantities of oil at low cost.

Whenever Oil is used it becomes contaminated—must be discarded or conditioned for further use

There Is a **HILCO** to do This Job for You

Cleans Oil, Reduces Down Time, Increases Production!

★ Tell Us About Equipment You Are Operating and We Will Forward FREE Literature and recommendations.

OIL PURIFIER DIVISION
THE HILLIARD CORP.
35 W. 4th ST. • ELMIRA, N. Y.
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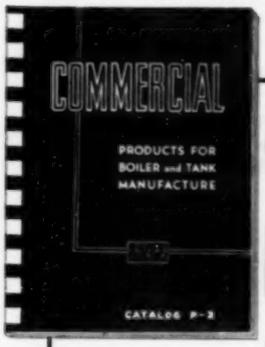
▼ BREVITY—Identify by IEN - 1680 if you write the maker ▼



TANK HEAD *Catalog* by **"COMMERCIAL"**

Ready for You **NOW!**

WRITE FOR IT

THE COMMERCIAL SHEARING AND STAMPING CO.

P. O. BOX 719 · YOUNGSTOWN 1, OHIO

▼ BREVITY—Identify by IEN - 1681 if you write the maker ▼

CALCULAGRAPH

figures elapsed time accurately

Reliable job time records are essential for compiling correct cost data, estimating reorders and checking on production efficiency. One sure way to secure accurate to the minute, dependable time costs is to use Calculagraph automatically-figured elapsed time records. Calculagraph gives you total elapsed time, starting and finishing time and date on a permanent, printed reference card. Eliminate losses due to inaccurate job time calculations by using Calculagraph to time your operations.

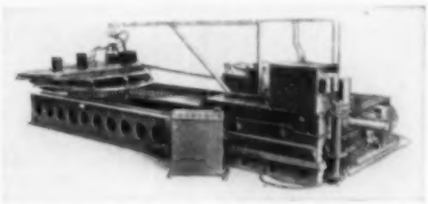
Write for full information today, to Dept. B.

CALCULAGRAPH COMPANY
SUSSEX STREET, HARRISON, NEW JERSEY

▼ BREVITY—Identify by IEN - 1683 if you write the maker ▼

BENDING . . Rolling table machine to stretch form sheet metal parts

Source: STRUTHERS WELLS CORP.
51 Wells St., Titusville, Pa.



Illustrated details in Bulletin R-1051

The die table on this new stretch-form bending machine is equipped with a gear on its underface. It is mounted to rotate on a carriage in ways on the machine. The carriage is secured to a rod terminating in a piston in a double-acting hydraulic cylinder beneath a stationary chuck table so the die table can be moved by hydraulic pressure toward and away from the chuck. The gear meshes with a rack lying parallel to the carriage piston rod.

The rack also is secured to a rod terminating in a piston in a second double-acting cylinder lying parallel to the first one beneath the chuck table. Pressure is controlled in the two cylinders so tension is applied in the work located between the chuck and the far end of the die as the carriage is moved forward and the rack causes the table to rotate. The wiping action that results will form the work accurately against the die at the same time applying correct tension for each step in the forming movement.

Three sizes of machine rate 12½, 25 and 65 ton. The largest will stretch formed metal with a cross-section area measuring 2½ square inches. Mechanical or hydraulic chucks can be specified. Continuous strip stock can be handled when the chucks are hollow and are designed for this purpose.

▼ BREVITY—Identify by IEN - 1684 if you write the maker ▼

THERMOSTAT . . Bimetal unit for appliances, 4 amp. on 110 volt ac.

Source: AMERICAN GENERAL THERMOSTAT CORP.
2066 Bronx St., New York 60, N. Y.

Specified setting

Overall range for this new Model A-7 bimetal thermostat is 70 to 600 deg. F. The contacts will remain open down to 50 deg. F. on units specified for an "off" position at extreme counter-clockwise rotation of the adjusting screw. The unit is single-pole single-wire design in which the contacts open with rise in temperature.

The contacts themselves are made of silver in welded assembly on stainless-steel springs. Terminal lugs are welded to the springs. Mounting is by means of a single screw. Overall dimensions are about 2 by ½ by 2 inches. Width between terminals is 1¼ inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1685 if you write the maker ▼

Schaffner
MANUFACTURING COMPANY, INC.

▼ BREVITY—Identify by IEN - 1686 if you write the maker ▼

space saving HV FILTER has longer life greater efficiency

today's best buy is better air!

AAF's new High Velocity filter handles the same air volume in 1/3 the space of standard unit filters. It operates effectively at velocities from 300 to 500 fpm and maintains uniform efficiency over this wide range of velocities. It's the exclusive *pyramid pocket* filtering media that makes the difference!

The H-V's low resistance, large dust capacity and longer life make it a superior unit for limited space conditions.

Available in all standard sizes and 1", 2" and 4" depths. Engineering Bulletin #203 gives complete information and technical data. Write for it today.

AAF American Air Filter
COMPANY, INC.
395 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Montreal, P. Q.

▼ BREVITY—Identify by IEN - 1687 if you write the maker ▼

Globe Loading Lift

Speeds Loading and Unloading

Trucks, trailers, railway cars, and cargo planes can be loaded faster and at lower cost with a Globe Loading Lift. What's more, material can be handled with less risk of damage to cargo or injury to workers.

The Globe Loading Lift is a simple elevating platform that eliminates the need for ramps, gangplanks, and "muscling" of cargoes. Platform recesses into floor or driveway in "down" position. Accurate control makes for easy, flush-leveling to keep goods moving on an even plane.

Got a Lifting Problem?

GLOBE
has the answer

Muscle is the world's most wasteful lifting power. A Globe OiLIFT will do it cheaper and better.

For helpful information on Self-Leveling Ramps, Machine Loading Lifts, Industrial Truck Service Lifts, Production Lifts, etc., write for bulletin IE-312.

GLOBE HOIST COMPANY • 1000 E. Mermaid Lane, Philadelphia 18, Pa.
(Factories at Des Moines, Iowa & Philadelphia, Pa.)

▼ BREVITY—Identify by IEN - 1688 if you write the maker ▼

MANY INDUSTRIAL ROLL PROBLEMS are solved by using

SHAF-TITE* ROLLS

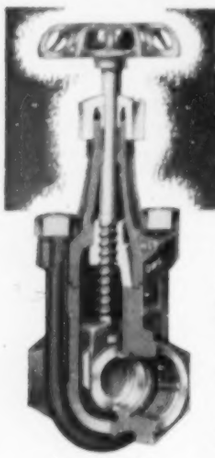
Many patented constructions provide strongest possible shaft setting. Your choice of many different types and materials—wood, rubber, iron, brass, stainless steel plastic, etc. Whatever your roll problem, put it up to Rodney Hunt.

SEND FOR NEW CATALOG NO. 48
Most complete publication of its kind

Industrial Roll Division
RODNEY HUNT MACHINE CO.
273 Main Street, Orange, Mass.

*Reg. U. S. Pat. Off.

▼ BREVITY—Identify by IEN - 1689 if you write the maker ▼



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JENKINS U-BOLT GATE VALVE

16 Advanced Features

You can't beat the Jenkins U-Bolt Gate for simplified design, rugged construction, and economical maintenance. Removable Bonnet-Saver Bushing can be renewed when threads become worn, restoring entire bonnet to original efficiency. Cleaning is easier with removable bushing.

These features—plus many others—make the Jenkins U-Bolt Gate a favorite for any services where extra endurance and easy maintenance are essential. Jenkins Bros., 100 Park Ave., New York 17.

Sizes—¼" to 3" Bronze Mounted or All Iron

Complete details and specifications on request

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HOW TO SPEED PRODUCTION

HOW TO SAVE ⅓ INSTALLATION SPACE

HOW TO GET MORE BORE POWER

HOW TO SAVE MONEY

Use Dependable, Powerful

O-M CYLINDERS

AIR—WATER—HYDRAULIC

In full range of sizes (1½" to 8" bores). All machined steel with bearing bronze throughout. Interchangeable parts and mounting brackets.

FREE CATALOG Brand new! 20 pages of specifications, diagrams, and parts listing.

FREE TEMPLATES Complete set. Shows all cylinders and mounting brackets. ½ scale.

Write today to

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1208 150th St., Hammond, Indiana

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ARE YOU A *Betting Man?*

We'll bet you a good lunch that if you hit a pellet of the chilled iron abrasive you are now using, it will shatter. And we'll bet you another lunch, that you can strike the same blow at a pellet of Controlled "T" shot, and it will DEFORM, BEFORE TEARING APART. There is a big savings story in this fact. National Controlled "T" shot is the ONLY chilled iron abrasive in which the hard iron carbides that do the cutting are imbedded in a *ductile matrix*. "T" shot and grit are hard enough to do a cleaning job FAST, but soft enough to go easy on your equipment. The maintenance savings are a pleasure to see. A post card to the nearest Hickman, Williams office will bring quick proof, without obligation.

National Controlled "T" Shot and Grit is produced exclusively by National Metal Abrasive Company • Cleveland, Ohio
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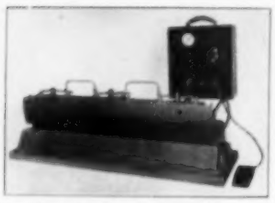
CLEVELAND • NEW YORK • INDIANAPOLIS • CHICAGO • PITTSBURGH
CINCINNATI • ST. LOUIS • PHILADELPHIA • DETROIT

▼ BREVITY—Identify by IEN - 1692 if you write the maker ▼

PACKAGING . . Heat sealing machine, air operated, electrically controlled

Source: PACKAGING INDUSTRIES LTD. 48-52 Church St., Montclair, N. J.



Controls heat, pressure, time

Holding pressure, sealing temperature and holding interval are all adjustable on this new Sentinel heat-sealing machine through a control housing, previously described IEN-10056-51. The new machine is available in lengths starting at 1 ft. and extending to 24 ft. in 1-ft. increments. Seal width is 1 inch. The sealing jaw is a continuous strip designed to maintain uniform pressure throughout its length. Control centers at a foot switch. The machine connects to a shop air line for pneumatic pressure.

Barrier materials can be sealed even though wrinkles or multiple layers may lie along the length of a given seam. When the action is started by depressing the foot switch, it continues until the seal has been completed and the jaws retract to release the finished work. Electrical input is from a 110-volt 60-cycle ac. power source. Application can be made on thermoplastic coated and laminated packaging materials.

▼ BREVITY—Identify by IEN - 1693 if you write the maker ▼

REFRIGERATING . . Sub-zero machine to shrink, stabilize, test and store

Source: BREWER-TITCHENER CORP. 302 Court St., Binghamton, N. Y.

Model LT-25-22

Work space totals 2½ cu. ft. in this new Rigid-Frigid refrigerating equipment. Temperature can be brought down and held to minus 40 deg. F. with the hermetically-sealed ⅛-hp. unit assembled in the housing. Overall dimensions are 40 by 32 by 36 inches. The hinged insulated top is raised and lowered by operating a foot treadle so both of the operator's hands are free to handle the work. Operation is on 110-volt 60-cycle ac.

Applications include storing aluminum-alloy rivets to retard aging, shrinking work pieces for assembly, cooling compressed air for use on metal-cutting tools, testing work pieces and assemblies under low-temperature conditions.

▼ BREVITY—Identify by IEN - 1694 if you write the maker ▼

SYNTHETIC FIBERS . . Picture book shows their manufacture, properties and uses

E. I. du Pont de Nemours & Co.
Room 2518, Nemours Bldg., Wilmington 98, Del.

Pictures tell most of the story in "Man-Made Fibers", latest in the company's "This Is Du Pont" series of booklets. They show industrial and consumer uses of rayon, nylon, Orlon, Dacron. Text describes investment required, research, consumer benefits from these products.

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▼ BREVITY—Identify by IEN - 1695 if you write the maker ▼

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STANDARD FLAT TYPE C7000 SERIES SPEED NUTS®

Fastest Thing in Fastenings

Faced with a shortage of lock nuts? Do as thousands of manufacturers have done—switch to SPEED NUTS. They can be applied much faster, eliminate assembly steps, and provide maximum holding power at minimum cost per fastener. They spin on by hand, tighten down without being held with a wrench.

10 SIZES—For machine screws, C7000 SPEED NUTS are available in these sizes: –436, –632, –832, –1024, –¼-20. For tapping screws: –4A, –6A, –8A, –10A, –14A. Write for samples.

TINNERMAN PRODUCTS, INC.
Dept. 12-A, Box 6688, Cleveland 1, Ohio

▼ BREVITY—Identify by IEN - 1696 if you write the maker ▼

Elliott has a background of more than 50 years . . . exclusively in . . .

FLEXIBLE SHAFTS

Elliott specializes in Heavy Duty Flexible Shaft units for power take-off of truck and tractors, for operating pumps, compressors, winches, and similar units * Elliott supplies Flexible Shafts to builders of Grinders, Sanders, Polishers, Concrete Vibrators and other portable tools for working in metals, plastics, wood and ceramics * Elliott manufactures Cores with windings and materials to suit every particular requirement, using the best grades of Full Music wire, Stainless Steel wire, or High Carbon wire . . . to fit the job.

Bring your Power Transmission Problems to . . .

Elliott Engineering Service will help you select the type of Flexible Shafting and standard accessories which are best suited to your particular type of work. Inquiries are held in confidence, and this service is yours without obligation.

Elliott MANUFACTURING CO.
200 Prospect Ave., Binghamton, N.Y.

Ask for Circular 207 • See our Catalog in SWEET'S File for Product Designers

▼ BREVITY—Identify by IEN - 1697 if you write the maker ▼

*first** IN INTERIOR FIRE PROTECTION

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OFFERS

PROMPT DELIVERY
WIDE SELECTION
TOP QUALITY

FIRE EXTINGUISHERS and SUPPLIES

Approved for fires of Class A, A1, B, B1, C, C1—soda-acid, foam, V/L, pump, gas—several sizes and finishes, also cabinets

*Voted 1st by engineers, architects, contractors, distributors; most widely used. Also complete line of hose fittings for all purposes. Write for catalog or consulting service.

Established 1887
W. D. ALLEN Manufacturing Co.
CHICAGO 6 • NEW YORK 7

▼ BREVITY—Identify by IEN - 1699 if you write the maker ▼

Oakite's FREE Booklet

"Some good things to know about Metal Cleaning"

answers many questions that mean better production, more profit for you. Just look at the table of contents:

- Tank cleaning methods
- Machine cleaning methods
- Electrocleaning steel
- Electrocleaning nonferrous metals
- Pickling, deoxidizing, bright dipping
- Pre-paint treatment in machines, in tanks and by hand
- Paint-stripping
- Steam-detergent cleaning
- Barrel cleaning
- Burnishing
- Better cleaning in hard-water areas
- Treating water in paint spray booths
- Rust prevention
- Machining and grinding

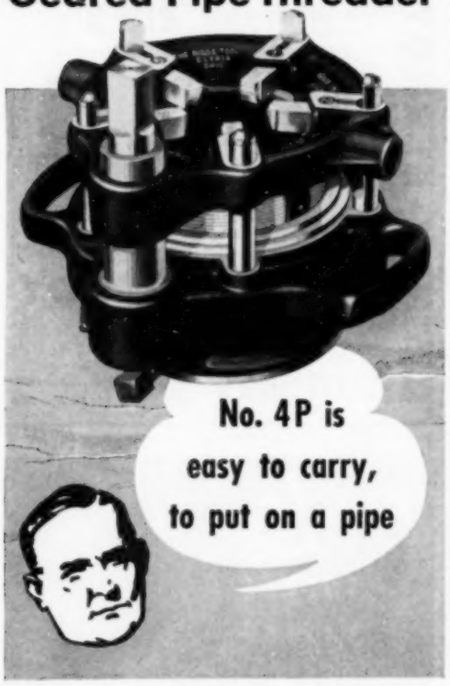
FREE For this 44-page illustrated booklet, write Oakite Products, Inc., 16A Thames St., New York 6, N. Y.

Technical Service Representatives in Principal Cities of U. S. & Canada

OAKITE SPECIALIZED INDUSTRIAL CLEANING MATERIALS · METHODS · SERVICE

▼ BREVITY—Identify by IEN - 1700 if you write the maker ▼

Easier to Handle this RIDGID Geared Pipe Threader



● You'll like the balanced loop handles that make it easy to swing the 4P around where you want it. Making it still more of a work-saver, mistake-proof workholder sets to size *before* you put it on pipe—only one screw to tighten, no bushings to fool with. 4 sets of 5 high-speed steel chaser dies give quick, clean threads on 2½", 3", 3½" and 4" pipe. Ratchet handle furnished—for power threading use with RIDGID Universal Drive Shaft and Power Drive. Save your muscles—buy this easier-to-handle RIDGID 4P at your Supply House.

RIDGID

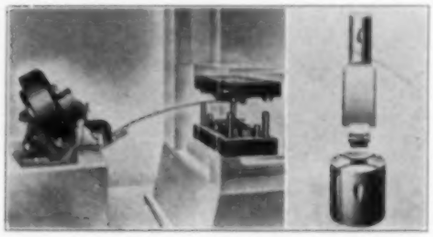
Work-Saver Pipe Tools

THE RIDGE TOOL CO. • ELYRIA, OHIO

▼ BREVITY—Identify by IEN - 1702 if you write the maker ▼

PRESS TOOLS . . Punch and die with feed to set clinch nuts in work

Source: ALLIED PRODUCTS CORP.
1558-62 E. Milwaukee Ave., Detroit 11, Mich.



Flexible chute moves with the punch

Magnetic punch and mating die button has been developed to apply with a magazine feed through a flexible chute. The chute leads through a spring pad in a progressive die to feed, place, pierce and anchor the company's Type-H clinch nut in sheet-metal parts. Each stroke of the press carrying the new equipment pierces the work and clinches the nut.

The nut itself does the piercing. The slug falls through the die button while lips on the button clinch the nut to the underside of the work. The company is prepared to supply the punches, die buttons, hopper, flexible chute, spring pad and, if desired, can build the complete progressive die for specified application. Work to 0.190 in. in thickness can be pierced without difficulty in a production operation.

▼ BREVITY—Identify by IEN - 1703 if you write the maker ▼

TESTING . . Viscosity meter, 1 to 150 cps., gel strength to 200 gm.

Source: GEOPHYSICAL MACHINE WORKS
3200 Argonne, Dept. C-5, Houston 6, Texas

Ask for Catalog 151

Power to operate this new portable Model-32 assembly of the company's Fann V-G meter is taken from a 6-volt automotive storage battery so the meter can be used for field tests. It supplements a Model 31 which employs a 110-volt 60-cycle ac. motor. It is a companion unit to a Model 30 providing one drive speed at 600 rpm. The new unit is equipped with an adjustable governor on the motor for five speeds in a range between 200 and 600 rpm. or a viscosity range maximum at 150 centipoises. Gel strength also can be read to 200 grams.

Construction includes a motor-driven outer cylinder concentric with a stator in an arrangement that applies the fluid to be tested in the annular space between the two. When the outer cylinder is turned at a constant speed, torque is exerted on the stator in proportion to the viscosity of the fluid. This torque is balanced to a null point by suspended weights. A calibration constant is determined for each speed to convert the load in grams to centipoises. The instrument measures 5½ by 7 in. over its base. Extended height is 15½ inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1704 if you write the maker ▼

Whatever your spring wire requirements—consult with Seneca! Our production *geared to precision in* manufacturing oil tempered and hard drawn wire—round and flat—for all types of high grade mechanical springs. Seneca uniformity and dependability help the spring manufacturer produce high quality springs at low cost. Write . . . Seneca Wire & Mfg. Company, Fostoria, Ohio. Representatives in principal cities.

SENECA ROUND AND FLAT SPRING WIRE

WIRE & MFG. COMPANY • FOSTORIA, OHIO

▼ BREVITY—Identify by IEN - 1705 if you write the maker ▼

HERE'S ECONOMICAL Wound Rotor Motor Control

THIS COMBINATION of primary and secondary control for your wound-rotor motors will give you dependable, economical control . . . smooth acceleration and positive speed regulation.

PRIMARY CONTROL, Type 371 Wall Mounted Starters are designed for space saving, low original cost installation. Operating costs are kept down by rolling-wiping contact action, low inertia moving parts, and a completely oil-immersed mechanism that is sealed from the atmosphere.

SECONDARY CONTROL, Allis-Chalmers Type 9410 starting duty drum switches have four balanced control points . . . speed regulating switches have five. Both have radial and thrust ball bearings on each end of the shaft for easier, smoother operation.

Bulletin 14B7274 describes Type 371 starters for 2300-volt motors of 350 hp or less. Call your A-C representative or write Allis-Chalmers, Milwaukee 1, Wis. for this bulletin and more information on Type 9410 drum switches.

ALLIS-CHALMERS A-3531

▼ BREVITY—Identify by IEN - 1706 if you write the maker ▼

ROYAL®

put this camera to work and saved valuable development time

Parts in electric typewriters have a habit of moving too fast to see when you want to check for strain or yielding under pressure. In developing their machine, Royal Typewriter Co. engineers used the Kodak High Speed Camera to turn the blur of speed into clear pictures for rapid, visual analysis.

This versatile instrument takes up to 5200 pictures a second on 16mm film—slows motion as much as 200 times. Projected at normal speed, the films quickly and conclusively showed which parts were wrong—weeks of valuable time were saved over usual development procedures. In addition, the camera's built-in timing device simplified synchronization of components.

If you have a problem that's hidden by speed, the Kodak High Speed Camera may make the answer obvious. To find out more, send for your copy of the booklet, "Magnifying Time." It shows how others have solved their problems of design, production, and product performance. Eastman Kodak Company, Industrial Photographic Division, Rochester 4, N. Y.

the Kodak HIGH SPEED Camera

Kodak

BREVITY—Identify by IEN - 1708 If you write the maker

Money Saving BALL BEARING DEVELOPMENT

Improved machine design, performance and longer service life at low cost is made possible by this unique Fafnir Ball Bearing Unit incorporating the famous Fafnir Wide Inner Ring Ball Bearing with self-locking collar. It eliminates costly machining where bearings are involved. Makes maintenance easier.

The FAFNIR FLANGETTE — for slow speed applications
1 a completely packaged ball bearing
2 easy to install — self aligning at assembly
3 lightweight, compact, sturdy
4 bearing protected by Mechanseals (keep grease in, contaminants out)

Get complete details. The Fafnir Bearing Company, New Britain, Conn.

FAFNIR BALL BEARINGS
MOST COMPLETE LINE IN AMERICA

BREVITY—Identify by IEN - 1709 If you write the maker

They'll give your painting production the GUN!

You can bank on Binks spray painting guns for smooth finishes and long life because they are backed by 50-plus years of experience. The Binks Model 18 is the finest gun made. It is the choice of leading automobile, furniture, aircraft and other manufacturers who require the finest of finishes.

In addition to the 18, Binks has a complete range of guns to fit any painting purpose or pocketbook.

Ask your jobber for recommendations or literature on Binks guns — or write to Binks Manufacturing Company, 3120-34 W. Carroll Ave., Chicago 12, Illinois.

Binks EVERYTHING FOR SPRAY PAINTING

GUNS • SPRAY BOOTHS • MATERIAL TANKS • EXTRACTORS & ACCESSORIES

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BREVITY—Identify by IEN - 1710 If you write the maker

NEW LEITZ TOOLMAKER MICROSCOPE

...PRODUCES HIGHEST PRECISION
....CUTS INSPECTION TIME

The NEW LEITZ DESIGN checks angular measurements in degrees and minutes.

Contains all Thread Templates for U. S. National thread profiles 6-80 pitch.

Contains Radii Templates from 21/64" to 13/16" by 1/64". Concentric circles from .010" to .280" by .010" and one blank compartment.

NOTE: TEMPLATES CAN BE OBSERVED IN 3 MAGNIFICATIONS: 10X - 20X - 30X

BE SAFE — SEND FOR LATEST BULLETINS

GEORGE SCHERR CO., Inc.
COMPLETE LINE OF PRECISION INSTRUMENTS
198C LAFAYETTE ST. • N. Y. 12, N. Y.

BREVITY—Identify by IEN - 1711 If you write the maker

SPREADING . . Roller coating machine applies latex to a moccasin part

Source: POTDEVIN MACHINE CO.
1285 38th St., Brooklyn 18, N. Y.

Arrow indicates the work piece

Latex, held in a reservoir in this new roller-coating machine, is picked up by an idler roll. It is spread to the roll width on the under surface of that portion of a leather moccasin that covers the top of the foot and the toes. The work is fed forward by a motor-driven roll that applies on its top surface. The operator guides the work as it moves through the curved application path.

Working parts are made of stainless steel. The machine is assembled so it can be dismantled for cleaning. Overall dimensions are 5¼ by 6¼ by 4⅛ inches. Weight, 10 pounds.

BREVITY—Identify by IEN - 1712 If you write the maker

GAGE . . Spirit levels for line and surface applications

Source: CREATIVE PLASTICS CORP.
Highway 25-A, Stony Brook, N. Y.

About $1. and $2.75

Lucite plastic, water white, transparent, light conducting and shatterproof, is employed in the bubble-holding element of the company's new Level-It gages. The unit shown in the illustration measures 3 by 1/16 by 3/16 inches and is equipped with hooks at its two ends to apply on a level line. This same unit forms the bubble element in one direction in a 9-in. surface-level gage. A second element at right angles to the first one is employed to check on vertical surfaces as illustrated at the upper right.

BREVITY—Identify by IEN - 1713 If you write the maker

PAINTING . . Characteristics of hot-spray lacquer for finishing military products outlined in new folder

Hercules Powder Co.
1940 Delaware Trust Bldg., Wilmington 99, Del.

Lacquer as a finishing material and the hot-spray method of applying it are summarized in new 6-page pocket folder, "Finishing Military Items with Hot-Spray Lacquer." Advantages are listed with emphasis on costs involved.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1714 If you write the maker

NEW AN 737 CLAMP by GARRETT
DOUBLE PROTECTION SAFE CONNECTIONS

APPROVED FOR AIRCRAFT USE BY THE ARMED FORCES

Quality proved unsurpassed in millions of hose clamps is now being built into the new Garrett AN 737 Hose Clamp.

This new stainless-steel, radial type hose clamp offers double protection—it is constructed so that it is mechanically fastened as well as spot-welded. Double protection on every connection . . . meets the specifications of the Armed Forces.

This new Garrett AN 737 with the floating bridge and thumbscrew assures safe, sure connections on all types of aircraft installations. Order now the size required by your contract work.

Garrett is in production on all types of hose clamps to meet Armed Forces specifications:

QS 100 and AN 746 Type
CMAX 10 Tank Ordnance
Automotive Type

For prompt deliveries on all hose clamps write or wire Garrett, D and Tioga Streets, Philadelphia 34, Pa.

GEORGE K. GARRETT COMPANY, INC. Garrett OF PENNSYLVANIA

BREVITY—Identify by IEN - 1715 If you write the maker

REPUBLIC RUBBER PAVES WAY FOR ELIMINATION OF INDUSTRIAL RUBBER SUPPLY PROBLEMS

BELTING, HOSE, MOLDED & EXTRUDED SHAPES LATHE OR DIE CUT SPECIALTIES . . .

Biggest impact from record-breaking defense spending is yet to hit. All industries will feel increased pressures during 1952.

Maintenance and production requirements involving Industrial Rubber Products should be considered immediately since postponements may cause future delivery delays.

Let Republic Rubber help analyze your needs now . . . aid your planning to assure safe, adequate supplies.

Complete engineering services . . . on-the-spot estimates . . . available to help you develop bids, smooth out production wrinkles.

Remember, Republic Rubber has been the specialist in the field of Industrial Rubber for more than 50 years. Write, phone or wire today. Address: Republic Rubber Division, Youngstown, Ohio. Phone 3-2131.

BREVITY—Identify by IEN - 1716 If you write the maker

BURNDY • BURNDY

BURNDY • BURNDY • BURNDY

for top efficiency make connections with the 'BIG 3'

QIKLUG
wrench-installed terminal for rugged service.

SERVIT
exceptionally strong, compact service connector
See your Burndy distributor

SCRULUG
light-duty, one-piece compact terminal

BURNDY

BURNDY ENGINEERING CO., INC.
NEW YORK 54, NEW YORK

BREVITY—Identify by IEN - 1717 If you write the maker

ANGLgears—*standardized* right-angle bevel gear units with the *capacity* of units *many times* their *weight* and *size*—are the answer to various power transmission problems. ANGLgears *fit into the palm of your hand* yet have a capacity of 1/3 hp at 1,800 rpm with a 250 lb. in. static torque. Their compact design facilitates installation in applications with limited clearances, and universal mounting permits driving from any position. Write for descriptive literature.

AIRBORNE
ACCESSORIES CORPORATION
1414 Chestnut Avenue • Hillside 5, New Jersey

© A.A.C.

▼ BREVITY—Identify by IEN - 1718 If you write the maker ▼

FLEXINEERING

PENFLEX'S ANSWER TO YOUR FLEXIBLE TUBING PROBLEMS

An extra man to help you plan new products requiring flexible tubing or to solve problems on old products. That's the service Penflex's "Flexineering" offers you. Flexineering is the scientific application of the right size, weight and type of flexible tubing on the right installation or product to assure the longest life with the greatest efficiency.

Penflex manufactures a complete line of four wall interlocked and seamless welded corrugated flexible tubing in sizes from 1/8" to 30" I.D. Write today for your copy of "Flexineering."

Pennsylvania Flexible Metallic Tubing Company, Inc., 7700 Powers Lane, Phila. 42, Pa.
Branch Sales Offices: Boston • New York • Chicago • Houston
Cleveland • Los Angeles, 3414 Emery Street

penflex

HEART OF INDUSTRY'S LIFE LINES

▼ BREVITY—Identify by IEN - 1719 If you write the maker ▼

PLANT REPORT

16,320 holes tapped per 8-hour shift with one machine...every one lubricated with Norgren Oil Fog. 51 taps per chucking.

INSTALLATION:

New type tapping machine built by the Snyder Tool and Engineering Company, Detroit, for use by one of the "big 3" automobile manufacturers. The machine taps 51 holes in an engine block at one chucking; taps 40 blocks an hour; replaces 4 machines in the production line.

PROBLEM:

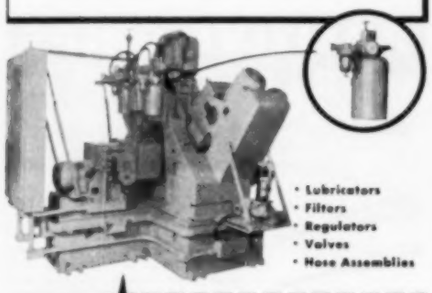
To obtain uniform lubrication and cooling of all 51 taps and eliminate use of messy coolant system.

SOLUTION:

Use of a Norgren Oil Fog Lubrication System consisting of air filters, air pressure regulators, Oil-Fog Lubricators and aerosol distributors. Solenoid valves control intervals of oil-fog distribution.

RESULTS:

BETTER TAP HOLES...oiled air *lubricates, cleans, cools* all 51 taps.
LESS TAP BREAKAGE—
LONGER TAP LIFE
NO MESSY COOLANT SYSTEM



- Lubricators
- Filters
- Regulators
- Valves
- Hose Assemblies

C. A. NORGREN CO.
3432 So. Elati—Englewood, Colorado
(Suburb of Denver)
Gentlemen: Please send me your free Norgren Blueprint No. 114, giving complete data on above lubrication system.
NAME_____
ADDRESS_____
COMPANY_____

Norgren
25 YEARS OF HELPING TO MAKE AIR POWER SERVE INDUSTRY BETTER

▼ BREVITY—Identify by IEN - 1721 If you write the maker ▼

VALVE . . Cylindrical plug design, straight through and three way to 6 in.

Source: ROCKLEDGE PRODUCTS INC.
1428-A Land Title Bldg., Philadelphia 10, Pa.

Steam, oil, caustics, ink

Rectangular port equal to the area of the pipe line, size for size, is provided in the cylindrical plug in this new non-lubricated valve. The plug is backed up by a spring. It is sealed with packing top and bottom, presents a square end for wrench operation. It can be specified for pneumatic or motor drive.

Sizes range from ½ to 2 in. with threaded connections. The range is 1 to 6 in. with flanges. Service is to 500 lb. in temperature to 750 deg. F. based on a cast-steel body and threaded connections. Bronze, cast iron, steel and special alloys can be specified. Face-to-face dimension is 3 to 6¾ in. in threaded design, 5½ to 10½ in. in flanged design in the straight-through valve.

▼ BREVITY—Identify by IEN - 1722 If you write the maker ▼

FILTERING . . Porous metal unit employs cobalt base alloy element

Source: MICRO METALLIC CORP.
28-32 Sea Cliff Ave., Glen Cove, N. Y.

Element is L-605 Alloy

Haynes Alloy - 25 is a new porous alloy material now available in the company's fluid filters. The new alloy represents an addition to the standard construction employing porous stainless steel. Nominal compositon is 15 per cent cobalt, 20 per cent chromium, 15 per cent tungsten, 10 per cent nickel.

Application can be made above 1,000 deg. F. with satisfactory operation by the element. It also is resistant to corroding action and can be used in connection with hydrochloric acid, wet chlorine and anhydrous nitric acid. The element material has high tensile strength, good ductility and in the form of porous sheets can be rolled and welded to make cylinders and other element shapes.

▼ BREVITY—Identify by IEN - 1723 If you write the maker ▼

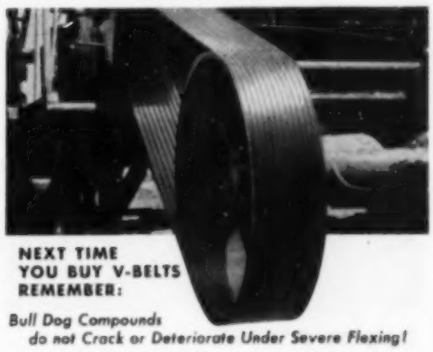
SOLDERING . . Electric iron applies heat at copper wire loop tip

Source: WEN PRODUCTS CO.
5804-8 Northwest Highway, Chicago 31, Ill.

Input rating is 250 watts on a 110-volt ac. circuit for this new transformer-type soldering iron. Depressing the trigger closes the circuit to heat the loop-type tip to soldering temperature in 3 to 5 seconds. The tip cools when the trigger is released. A built-in spot light illuminates the work. The tip can be replaced. List price is about $13.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1724 If you write the maker ▼



NEXT TIME YOU BUY V-BELTS REMEMBER:

Bull Dog Compounds do not Crack or Deteriorate Under Severe Flexing!

Bull Dog compounds run cooler and do not crack or deteriorate under severe flexing. This simple fact explains in great part the steady, low cost performance of Bull Dog V-Belts . . . and their longer life!

Remember, also, that Bull Dogs are processed for minimum stretch. You'll see the operating benefits in reduced slippage and elimination of repeated adjustments.

Durable Covers are another advantage. They're closely woven of heavy, bias cut fabric and can withstand the punishing wear of the sheave while sealing the belt against moisture, dirt and grease.

Remember, too, that the *specially engineered* BWH cord section is outstanding in high tensile strength. This means you'll get the superior load carrying capacity you want — and the ability to absorb shock loads.

TOUGH PROBLEMS INVITED — Ask us or your nearest BWH distributor about your V-belts, transmission belting, conveyor belting and hose problems. He is a specialist in making rubber products work *better, longer*.

Another Quality Product of

BOSTON WOVEN HOSE & RUBBER CO.
Distributors in all Principal Cities
PLANT: Cambridge, Mass. • P.O. Box 1071, Boston 3, Mass., U.S.A.

▼ BREVITY—Identify by IEN - 1725 If you write the maker ▼

FLAT SPRING STEEL

Roebling...for absolutely uniform quality

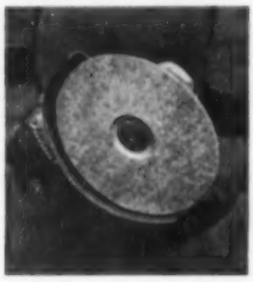
FOR FLAPPER VALVES, shoe shanks, measuring tapes! For steel rules, curtain springs, snap springs, lock springs and a thousand and one other exacting uses, Roebling high carbon flat spring steel is unsurpassed.

Roebling's *complete* manufacturing facilities bring positive quality control and assure a product that saves users' preparation time . . . brings faster, smoother operation. And Roebling flat spring steel is made annealed, hard rolled untempered; scaleless tempered; tempered and polished, blued and strawed.

Large quantities of Roebling flat, round and shaped wires are required in the rearmament program, but we will do our best to meet your delivery needs. John A. Roebling's Sons Company, Trenton 2, New Jersey.

ROEBLING

▼ BREVITY—Identify by IEN - 1726 If you write the maker ▼



NEW *FLEXIBLE* NORTON *REINFORCED* HUB WHEEL

for quick, easy, safe portable finishing

This new Norton BFR flexible *Reinforced* Hub Wheel — teamed up with the heavy-duty Norton BD *Reinforced* Hub Wheel — multiplies the number of jobs you can profitably do with your standard portable grinders and sanders.

The Norton BFR wheel can't be beat for such jobs as smoothing welds and contours, removing mold marks and rust prior to painting, cutting off small gates and risers and notching big ones. It comes in 7" and 9" diameters in 3/32", 5/16", and 1/4" thicknesses. Specify A 24-K BFR for the average job.

Ask your nearby Norton distributor about new, improved Norton portable grinding wheels. He's listed under "Grinding Wheels" in your classified telephone directory. Or write direct to Norton Company, Worcester 6, Mass. Distributors in all principal cities.

NORTON ABRASIVES
Making better products to make other products better

▼ BREVITY—Identify by IEN - 1727 If you write the maker ▼

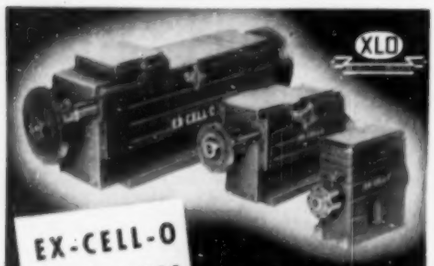
WHITNEY CHAIN

Takes the Problem out of your Power Drive Designs

Because Whitney Chains are extremely flexible and adaptable to a wide variety of designs, they meet practically all transmission requirements. Their positive grip delivers full power without slippage . . . assures uniform speeds. Their rugged construction and hardened-alloy-steel parts provide maximum service with low maintenance. Investigate Whitney Chains and Cut Tooth Sprockets . . . the *all steel drives* for your designs and equipment. Write:

WHITNEY CHAIN COMPANY
202 Hamilton Street — Hartford 2, Connecticut

BREVITY—Identify by IEN - 1728 if you write the maker



EX-CELL-O HYDRAULIC POWER UNITS

. . . For Your Special Purpose Machines

Ex-Cell-O Hydraulic Power Units provide a compact, flexible source of power for feeding, rotating and retracting cutting tools. They are especially suitable for automatic drilling, reaming and counterboring, using a single tool held directly in the spindle nose, or using two or more tools in a multiple spindle head. Three standard units are available—styles 28-A, 21 and 20, shown above. For full information send for Bulletin 45361.

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

BREVITY—Identify by IEN - 1729 if you write the maker

where ELSE can you use PRINT-AD STRING

the "TIE that TALKS"?

Tie up your products with Print-Ad String, and wherever they go they tell people your name or slogan, they give directions, they measure footage, they provide grade markings—they tell whatever you want told . . . and tell it in a novel, colorful way.

Here's a tremendously strong COTTON tie—in thicknesses down to .003, widths down to ⅛", in any color or combination of colors you want—a tie that won't mar or dent the edges of articles tied in it—won't slip in the knot—won't stretch—and adds a smart touch to your package.

Mighty useful for manufacturing short-cuts, too. Be informed! Mail coupon now for FREE booklet full of valuable ideas!

YOUR NAME
GRADE
DIRECTIONS
FOOTAGE
IDENTIFICATION, ETC.

BETTER TYING

Holds parts firmly for assembly, cutting, drilling . . . Holds parts in finished assemblies . . . Measures running footage . . . Gives directions, grade marks, identifications.

BIG HELP IN THE PLANT

Good looking all-cotton "ties" . . . Flat, won't mar or dent edges of boxes or merchandise . . . Won't slip in the knot . . . Non-stretch, great strength . . . Also used as rip cord opener, from candy bars to survival kits . . . Ties anything!

MAIL FOR FREE IDEA BOOK!

Dept. B - Chicago Printed String Co.
2300 Logan Blvd., Chicago 47, Ill.

GENTLEMEN: Without cost or obligation send me your FREE Idea Book.

My Name _____
Title _____
Company _____
Address _____
City _____ State _____

BREVITY—Identify by IEN - 1731 if you write the maker

PLASTIC . . Corrugated sheet, translucent, non-inflammable, flexible

Source: L. J. SEGIL CO.
2502 W. North Ave., Chicago 47, Ill.

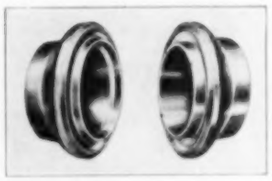
Sample on request

Corrugations are ¾ in. in depth in a new translucent plastic sheet material the company now offers in rolls that measure 36 in. in width. The sheet weighs a little under 1 oz. per square foot. It is oil resistant, can be cleaned by washing. It is the same material as that employed in assembly of the luminous ceiling previously described IEN-11850-51. Suggested applications are in covering wall and ceiling areas, pipe lines, ducts and as a tray to hold finished work so one piece cannot contact another.

BREVITY—Identify by IEN - 1732 if you write the maker

PIPE FITTING . . Weld coupling with protecting tongue and groove

Source: TUBE TURNS INC.
222 E. Broadway, Louisville 1, Ky.



1¼ to 12 inches

Tube-Turn SF is a new weld coupling in which one half is equipped with a tongue and the other with a groove so the two fit together. This leaves a circumferential cavity directly beneath the beveled welding area and prevents burn through or formation of icicles in pipe interior when the weld is made.

The cavity also insulates the interior from the extreme welding heat and prevents scaling. In addition, the tongue and groove assist in aligning the pipe. A finished job is free from scale that might later damage valves, traps, pumps.

Prior to fitting the coupling halves together, they are assembled and welded in the usual manner to the pipe. This weld, however, does not penetrate to the interior.

BREVITY—Identify by IEN - 1733 if you write the maker

PLASTICS . . How to label products made of plastic material described by new booklet

Monsanto Chemical Co.
600 Monsanto Ave., Springfield 2, Mass.

Types of labels to use on plastic products, merchandising functions of a good label, planning a label, permanent labels, production methods of labeling are major topics in new 16-page Production Information Bulletin 66. Title is "Technical and Merchandising Aspects of Labeling Plastic Products."

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1734 if you write the maker

RIGHT AT THE SOURCE OF WASTE

For this 15 hp motor, power losses are corrected where it does the most good—*at the source*. A 4 kvar Sprague Power Factor Correction Capacitor across the terminals reduced reactive circuit current flow through transformers and wiring to a bare minimum . . . slashed power bills noticeably.

Sprague Unit-Cell Capacitors make it unnecessary to buy even one kvar more than you need. Write for the Sprague free guide of cost-saving suggestions, No. 50B.

SPRAGUE — PIONEERS IN ELECTRIC AND ELECTRONIC DEVELOPMENT
SPRAGUE ELECTRIC COMPANY
NORTH ADAMS, MASS.

BREVITY—Identify by IEN - 1735 if you write the maker

S.S.WHITE ELASTOPLASTIC ALEMITE FITTING CAPS

They're FLEXIBLE
- *Easy on*
- *Easy off*
- *Stay put*

These inexpensive plastic caps prevent dirt from lodging on the tips of alemite fittings and being forced into the bearings when the grease gun is applied.

They're ideal for dirty or gritty operations. They're long lasting, retain their flexibility and are unaffected by oil, grease or gasoline.

Sizes for button head, zerk or hydraulic and ⅛" dot type fittings. For details and prices,

WRITE FOR BULLETIN P-5103

THE S.S.White PLASTICS DIVISION
DENTAL MFG. CO. Dept. NP 10 East 40th St. NEW YORK 16, N. Y.

WESTERN DISTRICT OFFICE: Times Building, Long Beach, Calif.

BREVITY—Identify by IEN - 1736 if you write the maker

now with 12 position indexing

12 position indexing now makes possible the alignment with work at any thirty degree increment.

This is only one of the outstanding features developed by the first and largest manufacturer of turrets for small lathes. Other features include built-in cut-off tool and holder and positive rapid indexing. All wearing parts are hardened and precision fit. They are available in three sizes.

Switch to Crozier Tool Post Turrets today. Save as much as 75% set-up and down time in lathe operations. In Crozier, you have America's precision-built tool post turret. Write for catalog.

CROZIER MACHINE TOOL CO. Dept. IEN-2
Hawthorne, California

BREVITY—Identify by IEN - 1737 if you write the maker

POSITIVE GRIPS

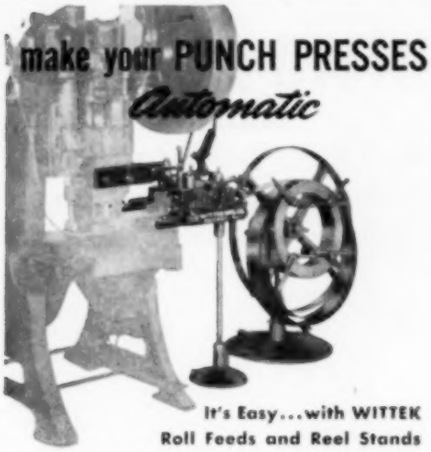
THE "HAMMER-LOCK" and Electroline FITTINGS

The "Hammer-Lock" has long been a favorite grip of wrestlers. But just as popular, in Industry, is the Electroline Fitting . . . these safe, economical, permanent wire-rope connectors may be installed by unskilled labor in a matter of minutes with ordinary mechanic's tools.

Electroline Fittings slash re-roping costs—and prolong wire-rope life by damping vibration stresses and overcoming rope fatigue at entrance to the fitting. Send for catalog describing "positive-grip" Electroline Fittings!

Electroline Company
4121 SOUTH LA SALLE STREET
CHICAGO 9, ILLINOIS
IN CANADA: POWERLITE DEVICES, LTD., TORONTO

▼ BREVITY—Identify by IEN - 1738 if you write the maker ▼



It's Easy...with WITTEK Roll Feeds and Reel Stands

Wittek Roll Feeds handle any type of coiled strip stock and are made in single roll, double roll, and compound types with straighteners, in models to feed in any of four directions. They are reliable and accurate with simple, quick adjustment of feed length. Standard sizes and models meet a wide variety of press size and capacity conditions.

Wittek Reel Stands facilitate handling coiled stock.

Write for full particulars

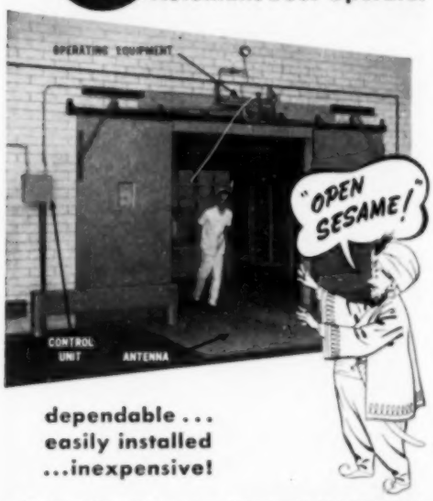
WITTEK Manufacturing Co.
4336 W. 24th Place, Chicago 23, Illinois

Automatic ROLL FEEDS AND REEL STANDS

▼ BREVITY—Identify by IEN - 1739 if you write the maker ▼

here's the most modern — most efficient automatic door operator ever!

the NP "Electro-Field"* Automatic Door Operator



dependable ... easily installed ...inexpensive!

National Pneumatic's new "Electro-Field" Automatic Door Operator offers many important advantages over ordinary equipment, yet its cost is substantially less than even the conventional photoelectric type door operator.

The "Electro-Field" Automatic Door Operator employs a balanced high-frequency electrical system with a floor-installed antenna. Unbalancing of the electrical field by a person passing over the antenna actuates the operating equipment, thus opening the door. The door closes automatically after safe clearance, with no slamming. Timing is adjustable to individual requirements. Both opening and closing are performed by air pressure.

NP's "Electro-Field" controls all types of sliding, swinging or folding doors. It is pre-piped and pre-wired for easy installation. Doorways and approaches are kept perfectly clear, for no stanchions are used. The "Electro-Field" is precisely engineered and built. It stays in adjustment and gives long, trouble-free service.

Made by National Pneumatic Company, for nearly fifty years the principal supplier of door control equipment for railroads and transit systems, where dependability is of paramount importance. NP also makes a fully automatic *Photoelectric* Door Control, and two types of semiautomatic door controls — complete details will be forwarded on request. *Trade Mark

NATIONAL PNEUMATIC CO., INC.
125 Amory Street, Boston 19, Massachusetts
WORLD'S LARGEST MANUFACTURER OF DOOR CONTROL EQUIPMENT

▼ BREVITY—Identify by IEN - 1741 if you write the maker ▼

GRINDING . . Opposed disc machine for thin flat parts in a work plate

Source: GARDNER MACHINE CO.
51 State Line Road, Beloit, Wis.

Available for specified work

Flat pieces of specified outline are fed manually into corresponding openings in a rotating plate mounted on a vertical spindle in this new No. 211 double-spindle machine. The plate is power driven to carry the work pieces between opposed abrasive discs measuring 23 in. in diameter. The discs are carried by vertical motor-driven spindles assembled in heads that ride on ball-bearing ways on a vertical column. Provision is made to tilt the heads in order to set the discs at the best grinding angle for a given job.

The work pieces pass between the discs to remove between 0.008 and 0.010 in. of stock with tolerances held to 0.0005 in. for parallelism and 0.0015 in. for uniformity. The heads are positioned by turning handwheels at the side of the housing. A third handwheel operates a dresser.

▼ BREVITY—Identify by IEN - 1742 if you write the maker ▼

MILLING . . Horizontal machine, plain, universal, mounts 41½ in. table

Source: AUSTIN INDUSTRIAL CORP.
50-R Church St., New York 7, N. Y.

Made in Sweden

The company announces availability in the United States of the Sajo horizontal milling machine in both plain and universal designs. The machine is suited for production lines and for job-shop use. It mounts a ball and roller-bearing spindle fitted with the American Standard No. 40 milling machine taper. Drive is by a 3-hp. motor mounted in the column. Belt connection through a gear transmission provides 12 speeds between 36 and 1,540 rpm. Screws and dials on the machine are calibrated in inches.

The table measures 41½ by 9¼ inches. It can be equipped with power feed and traverse for the longitudinal movement only or also for transverse and vertical movements. Maximum longitudinally is 24½ or 27½ in. for the plain and universal designs respectively. It is 8¼ in. in transverse direction and 19 in. vertically. There are 12 feeds measuring 0.06 to 1.99 mm. per revolution of the spindle. Standard equipment includes the motor and starter, a motor-driven coolant pump, a 1-in. Style-B arbor, and support braces for the overarm.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1743 if you write the maker ▼

we set 'em so you can forget 'em

DUNHAM RADIATOR TRAPS

Non-clogging • Tight-seating • Free-draining

Once you install a Dunham Trap, it's in to stay. No further adjustment is needed. Each trap is factory set —permanently—for most effective condensate drainage; square, tight seating.

Dunham thermostatic disc, sealed under high vacuum, assures sensitive, positive response to temperature and pressure changes.

Floating valve and rounded, non-clogging seat design assure tight closure with minimum wear. Ball swivel joint between valve and disc prevents localized stresses on disc; prolongs valve and seat life.

For complete information about long-lasting, leak-proof Dunham Traps, WRITE FOR FILE NO. 1501-11.

DUNHAM
C. A. Dunham Co.,
400 W. Madison St. Chicago 6, Ill.
In Canada:
C. A. Dunham Co. Ltd., Toronto
In England:
C. A. Dunham Co. Ltd., London

HEATING SYSTEMS AND EQUIPMENT

▼ BREVITY—Identify by IEN - 1744 if you write the maker ▼

For HARD-TO-START JOBS Requiring Low Starting Current

SPECIFY **Century** TYPE RS* MOTORS

These rugged, dependable motors meet the starting, accelerating and running characteristics of such equipment as refrigeration compressors, air compressors, stokers, reciprocating pumps, and other hard-to-start loads.

Century Type RS motors are giving satisfactory service throughout the world. They are available in sizes from ½ to 20 horsepower, in drip proof and splash proof frames.

In addition, Century builds electric motors in a wide range of types and kinds—in sizes from ¼ to 400 horsepower for operation on single and polyphase and direct current. Specify Century motors for all your electric power requirements.

*Single Phase, Repulsion Start, Induction, Brush Lifting Motors

CENTURY ELECTRIC COMPANY
1806 PINE ST., ST. LOUIS 3, MISSOURI
Offices and Stock Points in Principal Cities

▼ BREVITY—Identify by IEN - 1745 if you write the maker ▼

Pheoll SEMS Bind Parts Together 50% FASTER

More than 50% savings in assembly time is not unusual when Sems—single screw and washer units—are used in production work. These combination screws and free rotating washers will—

- End time necessary to place washers on screws.
- Prevent awkward assembly problems in close work areas.
- Assure having washers on screws where specified.
- End danger from washers dropped in assemblies.
- Speed unit assembly by reducing part handling time.

Many washer types are available for assembly needs—investigate through your design engineer how to improve production with Sems. Or, call in Pheoll engineers for unbiased recommendations.

Additional Profit-Producing PHEOLL PRODUCTS
Machine Screws, Machine Bolts
Special Screws and Bolts
Cap Screws, Machine Screw Nuts
Wood Screws Thumb Screws
Brass Washers
Tapping Screws, Stove Bolts

Pheoll MANUFACTURING COMPANY • 5700 Roosevelt Road Chicago 50, Illinois
SCREWS • BOLTS • NUTS
Industrial Fasteners and Holding Devices

▼ BREVITY—Identify by IEN - 1746 if you write the maker ▼

BOLT THREADING MACHINE

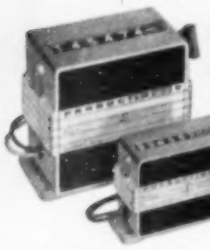
Oster No. 902 "Rapiduction" machine is equipped with lead screw synchronized with semi-automatic revolving die-head to trip automatically at finish of the thread by means of electric solenoids. This mechanism and the open-type, three-point contact vise reduce operator fatigue, increase production and assure precision results on a wide variety of threading work.

Standard range for bolts, N.C. ½" to 2", 12 pitch or finer, ½" to 2¼". Pipe or nipple range ¼" to 2".

For complete details, write . . .

OSTER
THE OSTER MFG. CO.
2953 East 61st Street
Cleveland 3, Ohio, U.S.A.

BREVITY—Identify by IEN - 1747 if you write the maker



2 NEW ELECTRIC PRODUCTIMETERS

"CS" and "Y" ELECTRIC PRODUCTIMETERS The answer to all electric counting requirements

Two Companion Counters . . . Two Sizes . . . Hi-Speed . . . Accurate . . . Long Life . . . Totally Enclosed

Speeds of 1000 counts per minute. Both counters give maximum readability. Design fits all mounting conditions . . . panel mounting or base mounting. Hardened steel working parts for long life and dependability.

New type case for compactness, rigidity, and protection against dust and moisture conditions. Operate accurately over wide current fluctuations.

Write for "New Electric" Bulletin

DURANT MANUFACTURING CO.
1930 N. Buffum St. Milwaukee 1, Wis.
130 Orange St. Providence 3, R. I.
Representatives in Principal Cities

PRODUCTIMETERS SINCE 1879 *Count Everything*

BREVITY—Identify by IEN - 1748 if you write the maker

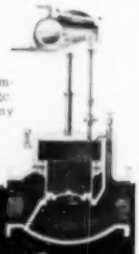
UNIFORM WATER LEVEL

IS *Automatically* MAINTAINED WITH

Golden-Anderson *Cushioned* VALVES

ALTITUDE CONTROL VALVE

Used for elevated tanks, reservoirs and standpipes and may be easily housed from inclement weather. Electrical attachment available for remote control operation.



COLDWATER FLOAT VALVE

For sensitive level control in mixing chambers, coagulating basins, track pans, etc. Patented cushioning feature prevents any surge or shock in operation.

Descriptive bulletins sent on request.

GOLDEN ANDERSON *Valve Specialty Company*
2079 KEENAN BUILDING • PITTSBURGH 22, PA.

BREVITY—Identify by IEN - 1749 if you write the maker

Get Laboratory Accuracy in Formulas . . . at the *Production Level!*

with

ROCKWELL *Industrial* METERS

The liquid content in the formula so carefully developed in your laboratory can be exactingly controlled in production when Rockwell meters are assigned to the job. You'll get the highest measurement accuracy while saving materials, labor and money. In addition your accountants will gainfully use the records Rockwell meters provide for inventory and cost control. Write for full details.

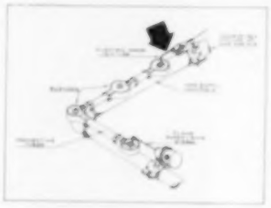
Sizes ½" to 3" in a variety of suitable materials. Option on type of register. Automatic shut-off control available.

ROCKWELL MANUFACTURING COMPANY
Dept. B-1, 400 N. Lexington Ave., Pittsburgh 8, Pa.

BREVITY—Identify by IEN - 1750 if you write the maker

HEATING . . Manifold assembly of gas burners and ignition control

Source: BURDETT MFG. CO.
3431-35 W. Madison St., Chicago 24, Ill.



Supplied when specified

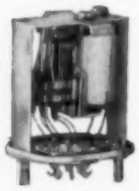
New assembly of the company's radiant gas burner includes a recently patented electric ignition control for safe operation. The assembly includes multiple burners on a manifold in which the burners also are connected in series by runs of metal tube. At one end is an electric spark igniter and at the other end a flame-supervising assembly.

The igniter circuit is closed by pressing a button to start the first burner and open the gas-supply valve. The flame travels through the connecting tubes, ignites the other burners in the series in normal operation. If the flame fails to travel, however, so the last burner has not lighted by the time the manual push button is released, the automatic gas-supply valve will close and shut off the gas to all of the burners.

BREVITY—Identify by IEN - 1751 if you write the maker

RELAY . . Multiple contact design, 3 amp. on 24 volt dc., 110 volt ac.

Source: SIGNAL ENGINEERING & MFG. CO.
154 W. 14th St., 11th Floor, New York 11, N. Y.



Ask for Bulletin MTR

Series 80 is a new line of miniature telephone-type relays for use in equipment subject to vibration and mechanical shock. The contacts are palladium in standard construction in rivet-assembled contact arms. Silver contacts can be specified for 5-amp. rating. The coil is available as required for operation to 110-volt dc. The coil assembly includes a beryllium-copper armature hinge. Housing dimensions for the design illustrated are 1⅝ by 1 by 2 inches. Overall length over the assembly studs measures 2 7/16 inches.

The relay is available with an octal base, sealed or unsealed, and with snap-on dust covers or hermetically-sealed covers. A modified Type AN 3106-20-27P sealed connector also is available. Coils are varnish-impregnated. Ferrous parts are zinc protected in standard design.

BREVITY—Identify by IEN - 1752 if you write the maker

PACKAGING . . Experience of seven companies with product packaging related in 40-page booklet

American Management Association
330 W. 42nd St., New York 18, N. Y.

Bulletin 36 in the Association's Packaging Series prints seven papers presented at a conference last year. List price is $1.25. Topics include design of package as part of the product, shock protection and cushioning, maintenance of packaging equipment, developments in packaging printing.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1753 if you write the maker

Simplify Die Design

. . . Specify

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DIE SPRINGS

Two complete size ranges . . . designed for medium pressure—high deflection or high pressure—medium deflection . . . meet specific die making needs more exactly! Write today for complete information. Ask for the Danly Die Spring Folder.

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BREVITY—Identify by IEN - 1754 if you write the maker

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- PREVENTS ACCIDENTS
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BEAT THE BAD WEATHER

CAPCO Dock Covers completely enclose the space between car and building doorways, protecting loading and unloading during bad weather. Recommended by safety engineers. No more wet merchandise in the rain . . . no more interruption during winter. Here's your insurance against loss of either heat or refrigeration; you have practically the same as indoor loading.

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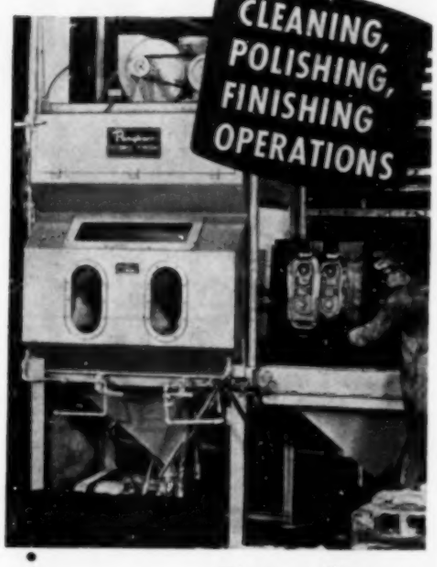
▼ BREVITY—Identify by IEN - 1758 If you write the maker ▼

SPEED UP



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Hydro-Finish saves you time, labor and money. Scale and discoloration are removed in *minutes* instead of hours. Cleaned surfaces are virtually free of directional grinding lines. Costly hand work is greatly reduced. No danger of excessive metal removal because tolerances are held to .0001". Fine mesh abrasives suspended in water do a precision job.

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Pangborn

BLAST CLEANS CHEAPER
with the right equipment for every job

▼ BREVITY—Identify by IEN - 1760 If you write the maker ▼

PRESS . . Pneumatic hydraulic unit connects to airline, rates 50 ton

Source: AMERICAN STEEL FOUNDRIES
1150-A Tennessee Ave., Cincinnati 29, Ohio

User's air pressure

Semi-automatic pushbutton operation is now available in the 50-ton floor model of the company's Hydroinair press, previously described IEN-12060-46. When a single button is depressed the press will close at rapid traverse, change to selected power pressure for a desired interval and then reopen to the starting position. During the pressure stroke the ram maintains constant preset pressure by means of the company's Power-Petuator, a reciprocating air-operated unit.

The press provides a 14-in. opening and 18½ in. between the columns. The platen measures 18 by 18 inches. The ram measures 6 in. in diameter and has a 6-in. stroke. Electric or steam-heated plates can be specified. Overall dimensions of the 50-ton assembly are 40 by 27 by 65 inches.

▼ BREVITY—Identify by IEN - 1761 If you write the maker ▼

LIGHTING . . Reflector lamps for flood and spot uses, 500 watts

Source: GENERAL ELECTRIC CO.
1 Nela Park, Cleveland 12, Ohio

List prices are $3.45 and $4.05

Two new lamps have been added to the company's line of Type R-40 reflector units. Both are intended particularly for outdoor installation. They are made of heat-resistant glass with 5-in. face and Mogul screw base. Mean candlepower in the central 10-deg. cone is approximately 20,000 for the spot and 4,000 for the flood lamp.

▼ BREVITY—Identify by IEN - 1762 If you write the maker ▼

SHEARING . . Lever operated machine 14-in. blade slits ⅛-in. steel sheet

Source: JULIUS BLUM & CO.
534-38 W. 22nd St., New York 11, N. Y.

Off-set frame design permits slitting sheets of any length in this new Samson No. 40 hand-operated shear. The frame is made of steel plate. Weight is 140 pounds.

Model 40-S is equipped with straight blades as shown in the illustration. **Model 40-C** mounts special blades to shear corrugated sheet to 16 gage. Both machines mount on a bench.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 88

▼ BREVITY—Identify by IEN - 1763 If you write the maker ▼

ILLINOIS DIE FILING MACHINE

An accurate, smoothly-operating machine that files, saws and stones the most intricate die shapes . . . eliminates tedious hand operations . . . reduces costs. It is quality-built for long, trouble-free service . . . hardened and ground shafts running in bronze bushings minimize wear. The holding chuck and clamping device provide perfect file alignment.

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MANUFACTURERS OF METAL CUTTING TOOLS AND SHAKEPROOF PRODUCTS

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Gray Mfg. Co. Employs FULLERGRIPT BRUSHES on Gray VoicEraser

The Gray VoicEraser smooths out, by the scientific application of heat, the Vinylite discs used on the famous Gray Audograph.

Fullergript brush rolls are an integral part of the VoicEraser. Two Fullergript brushes scrub the discs as they run through a detergent bath. A third holds the disc from below as it passes under the heated roller and also cleans the roller between the passage of discs.

Fullergript was selected for the Gray VoicEraser because of its continuous construction and because its metal back-bone would not warp. The versatility of Fullergript may be the answer to your brushing problems. Just write to . . .

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Starting Effort . . . 15 lbs.
Running Effort . . 10 lbs.
per ton weight

A simple, inexpensive, hand-propelled Cleveland Tramrail overhead materials handling system will pay for itself in a short time.

Overhead rails and transfer bridges make it possible to transport heavy loads directly to destination without in-between handling in a fraction of the time required for hand-handling.

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Control Postage Costs!

Save time . . . stop excess postage costs . . . avoid ill-will of "postage due" . . . with the speed and dependable accuracy of Toledo Scales! Choice of 11 models for mailing and parcel post . . . each with automatic Toledo indication of correct postage. Write for bulletin 3047-B. Toledo Scale Company, Toledo 1, Ohio.

Model 3659—Full capacity parcel post and express scale. Computes for all zones.

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HEADQUARTERS FOR SCALES

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NEW APPLETON V-51 SERIES

CONVERTIBLE VAPORTIGHT LIGHTING FIXTURES

Never before a vaportight lighting fixture so safe, so efficient, so easy to install . . . so economically serviced and maintained!

Combined in an exclusive "Unit Assembly," receptacle, globe and guard are detachable as a *single unit* instantly, without tools! Re-lamping or cleaning becomes safe, swift and simple.

Reflector is quickly attached or removed for cleaning without tools—thanks to exclusive neoprene rubber ring attachment. Shock-absorbing socket in "Unit Assembly" permits the use of standard lamps where costlier mill-type lamps were formerly used.

Write for Bulletin S-A

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Fine quality cotton bags for mailing and storage of small parts and samples. Also twin mailers with envelope for letter and sturdy cotton bag for sample or part. There is a Red Tye parts bag, and mailing bag for just about every need. Write us today for information. Your inquiry will be given prompt attention.

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▼ BREVITY—Identify by IEN - 1769 if you write the maker ▼

100% ACCOUNTING of Your Employees' TIME . . .

THE *Simplex* COST RECORDER

Registers exact starting and ending time for each job — You get accurate printed records made by the employee himself — Fully automatic operation gives fast, accurate time computation for payroll make-up.

STOPS TIME LEAKS

PRODUCES INDISPUTABLE RECORDS

REDUCES NON-PROTECTIVE TIME

SIMPLEX TIME RECORDER CO., Gardner, Mass., Dept. 110

Please give us more information on:

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Street & No. _____

City _____ State _____

▼ BREVITY—Identify by IEN - 1770 if you write the maker ▼

METER . . Vacuum tube instrument, ranges to 1,200 volts, 1,000 megohms

Source: HICKOK ELECTRICAL INSTRUMENT CO.
10544-48 Dupont Ave., Cleveland 8, Ohio

Unbreakable housing

Model 215 is a new vacuum-tube voltmeter employing a dual-purpose ac. dc. probe as a single unit with a built-in selector switch. Assembly is in a Lucite meter housing equipped with a Neolite carrying handle. Dimensions are 5¾ by 4½ by 8⅝ inches. Weight is 4½ lb. complete with leads.

Seven voltage ranges, ac. and dc., are maximum at 1.5 to 1,200 volts with accuracy at plus or minus 3 per cent on full scale for the dc. readings, plus or minus 5 per cent for the ac. readings. Seven ranges also are provided to read resistance in a range between 0.20 and 1,000 megohms. An additional seven ranges for ac. voltage readings, peak-to-peak, are maximum at 4 to 3,200 volts. Frequency response is flat between 40 cps. and 3.5 mc. A crystal probe can be supplied to extend the useful range to 250 mc. Operation is on 110-volt ac.

▼ BREVITY—Identify by IEN - 1771 if you write the maker ▼

TRUCK . . Attachment shoes to grip, lift and tilt steel drums

Source: BAKER-RAULANG CO.
1248-52 W. 80th St., Cleveland 2, Ohio

Pin assembled on the forks

New design of the rubber-faced grab shoes for drum handling on the company's motor-driven fork-lift truck and a second new design of the shoes in tilting assembly have been added to the Baker line of fork-lift truck attachments. The shoes are equipped with springs that hold them open to receive a drum. The tilt assembly permits picking up the drum in either horizontal or vertical position and rotating it through 90 degrees as the application requires.

▼ BREVITY—Identify by IEN - 1772 if you write the maker ▼

BOILERS . . Detail specifications on package-type steam boilers in loose-leaf catalog

York-Shipley Inc.
18 Jessop Place, York, Pa.

Individual specification sheets on "Steam-Pak" steam generators now are grouped in a new loose-leaf catalog. The company will send you individual sheets on its package-type boilers from 15 to 250 hp. Price on application.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 88

▼ BREVITY—Identify by IEN - 1773 if you write the maker ▼

TOUREK

BALL JOINTS • PIPE PLUGS AND QUALITY SCREW MACHINE PRODUCTS

Tourek's quality Ball Joints meet exacting requirements. Simplified design, improved performance, and lower costs result from specifying Tourek Ball Joints . . . the only recognized standard. Large stocks assure prompt delivery.

Tourek's precision counterweak steel pipe plugs are accurate, high strength, and economical—resulting in the highest quality at cost which are competitive to old style plugs.

Stock sizes, available with National Pipe or Dry-Seal threads are ⅛", ¼", ⅜", ½" and 1". Also available on special order in alloy steels, aluminum or brass in sizes up to 2⅝" diameter.

Modern high speed single and 6-spindle automatics—together with complete secondary equipment, including grinding and brazing—plus 50 years' experience, assure you "The Best in Quality Screw Machine Products."

Your requirements, up to 2⅝", are made with utmost precision, and with prompt-on delivery guarantee.

LITERATURE

Comprehensive data on any or all Tourek products sent promptly upon request . . . write for your copy. J. J. TOUREK MFG. CO. 4701 W. 16th St., Chicago 50, Ill.

TOUREK

"THE BEST IN QUALITY SCREW MACHINE PRODUCTS"

ESTABLISHED IN 1920

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At Dealers Giving Red Devil PAINT CONDITIONING SERVICE

Thousands of paint and hardware dealers from coast-to-coast enliven every can of paint they sell on an electric RED DEVIL PAINT CONDITIONER. Automatically this machine gives 700 shakes a minute—placing the pigments in full solution with smooth creamy consistency and perfect color distribution. "*Conditioned*" paint needs no stirring on the job, is easier to apply, and covers longer.

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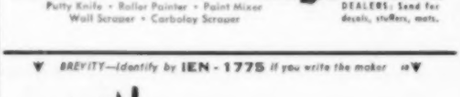
PUTS PEP IN YOUR PAINT

No. 30 RED DEVIL PAINT CONDITIONER



Putty Knife • Roller Painter • Paint Mixer
Wall Scraper • Carbolay Scraper

DEALERS: Send for decals, stuffers, mats.

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NEW!

R-B-M

A. C. MAGNETIC STARTERS

Line Voltage Type

With Visible Contact Overload Relays

R-B-M Size 0 and 1 A.C. Magnetic Starters have identical overall panel mounting dimensions. All parts, except stationary and movable contact assemblies, are common to both sizes.

Ilsco solderless lugs, suitable for #6 maximum wire size, are standard. Screw terminals are available on special order. Magnet coil can be removed without disassembling starter. Stationary and movable contacts replaceable without disconnecting wiring. Enclosed heater element, expanding U-shaped bi-metal and snap action contact mechanism provide dependable, accurate motor overload protection.

Small overall size, plus identical mounting dimensions for 10 and 15 ampere 2 to 5 pole contactors, as well as Size 0 and 1 non-reversing starters, make the R-B-M line extremely flexible for control panel layout.

Heater element cannot be assembled to starter incorrectly.

Bi-metallic thermal overload relay assembly replaceable without removing starter from enclosure. Designed for separate mounting without sub-panel assembly.

TRIP-FREE Manual reset is standard. Manual-Automatic Reset available on special order at no extra charge.

Two 5 pole contactors mechanically interlocked with overload protection on common base. Unwired. Note interchangeability of 25 ampere normally open contacts and 15 ampere convertible N.O. or N.C. interlocks.

Address Dept. L-2

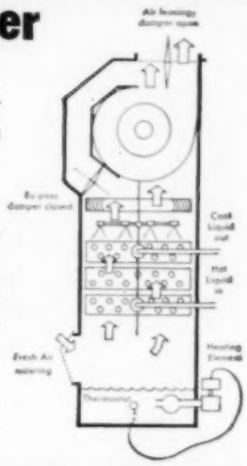
RBM

R-B-M DIVISION ESSEX WIRE CORP.
Logansport, Indiana

MANUAL AND MAGNETIC ELECTRIC CONTROLS —FOR AUTOMOTIVE, INDUSTRIAL, COMMUNICATION AND ELECTRONIC USE

▼ BREVITY—Identify by IEN - 1777 If you write the maker ▼

NIAGARA Aero Heat Exchanger



1. Extends quenching capacity without extra water or cooling tower.
2. Quickly pulls down heat at initial peak load of Quenching.
3. "Balanced Wet Bulb" Control holds quench bath at proper temperature, heating if needed to start after shut-down, and cools or heats by automatic control.
4. Saves cleaning expense as compared to cooling tower which picks up acids and fumes from air.

APPLICATIONS

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Lubricating Oils
Cooling Water

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Dept. EN, 405 Lexington Ave. New York 17, N. Y.

Experienced District Engineers in all Principal Cities of U. S. and Canada

▼ BREVITY—Identify by IEN - 1778 If you write the maker ▼

▼ BREVITY—Identify by IEN - 1779 If you write the maker ▼

▼ BREVITY—Identify by IEN - 1780 If you write the maker ▼

SIGNALING . . Electronic gas alarm indicates presence of explosive gases

Source: JOHNSON-WILLIAMS LTD.
2610-14 Third St., Palo Alto, Calif.

On-off or manual reset

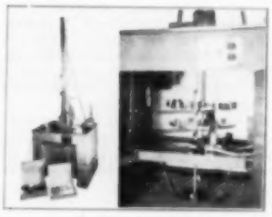
Model EE is a new signaling unit employing an electronic trigger-tube circuit. It converts sensing-unit signals into alarm indications, both visual and audible, in the event of dangerous accumulation of explosive gases at the point where the sensing unit is installed. Applications include pipe-line pumping stations, liquefied-petroleum gas plants, industrial and commercial areas where volatile liquids are used, stored and handled. The explosion-proof construction makes it safe to install the equipment in the area where the gases may accumulate, either indoors or outside.

The sensing unit is assembled in a bell-shaped housing shown at the bottom of the illustration. This unit operates on a combination of convection and diffusion to maintain continuous check of the surrounding atmosphere. Any accumulation of explosive vapor above a standard predetermined amount actuates the circuit to light red indicator lamps and to sound remote alarms. The electronic mechanism is assembled for quick replacement as a unit. A knob is turned to balance the circuit and is pressed to test the operation. Power is supplied by connection to a 110-volt circuit.

▼ BREVITY—Identify by IEN - 1781 If you write the maker ▼

TESTING . . Tensile machine for use on high-elongation materials

Source: SCOTT TESTERS INC.
88 Blackstone St., Providence 5, R. I.



No electric circuits

Samples of uniform width and length are die cut from a sheet of material to be tested by this new machine and a gage length of 10 centimeters is marked upon the sample. After placing it in the machine between the grips the operator sets the required loading weights and starts the motor. This raises the upper grip so the sample lifts the weight holder to test position. Then the motor stops and a red light indicates start of the test interval. This interval continues sufficiently to insure dimensional stability in the loaded condition. Elongation then is measured and compared with the original gage length for determination of strain expressed as a percentage of the original sample length.

Feature of the assembly lies in the table-mounted weights in the machine housing and the crank-operated means by which these weights are selected to load a given sample. There are four sets of the weights, one for each stress range of 50, 100, 200, and 400 lb. per square inch. Each set contains 18 weights.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1782 If you write the maker ▼

▼ BREVITY—Identify by IEN - 1783 If you write the maker ▼

▼ BREVITY—Identify by IEN - 1784 If you write the maker ▼

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A Division of Union Carbide and Carbon Corporation UCC
30 East 42nd Street, New York 17, N. Y.

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A Division of Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, N. Y.

BREVITY—Identify by IEN-1786 if you write the maker

How much dirt can you afford in your fluids?

This free folder tells about the only fluid strainer that's guaranteed to remove all solids larger than specified — from a wide range of fluids.

Brief Facts About Cuno AUTO-KLEAN

- Filter element is disc-type—all-metal, permanent.
- Continuously-cleanable feature eliminates production stops for cleaning or renewing strainer.
- Handles full flow in same space as usual partial flow type.
- Models available for straining from .0035 to .062 in.
- Wide range of designs and capacities.
- For free booklet on fluid straining, address Cuno Engineering Corp., 698A South Vine Street, Meriden, Conn.

CUNO *Fluid Conditioning* Removes More Sizes of Solids from More Types of Fluids

BREVITY—Identify by IEN-1787 if you write the maker

Tempilstiks°

the amazing crayons that tell working temperatures from 113° to 2000° F.

in welding flame-cutting tempering forging casting molding drawing straightening heat-treating in general

$2 each gives up to 2000 readings

It's this simple: Mark the workpiece with the proper Tempilstik°. When the mark melts, the specified temperature has been reached.

113	200	286	375	650	1000	1350	1700
125	213	300	388	700	1050	1400	1750
138	225	313	400	750	1100	1450	1800
150	238	325	450	800	1150	1500	1850
163	250	338	500	850	1200	1550	1900
175	263	350	550	900	1250	1600	1950
188	275	363	600	950	1300	1650	2000

FREE SAMPLE PELLETS Use this coupon. Specify temperatures of interest to you.

TEMPIL° CORP., 132 West 22nd St., N. Y. 11, N. Y.

Please send free sample pellets in the following rating _____

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Company _____

Address _____

BREVITY—Identify by IEN-1789 if you write the maker

LUBRICATING . . Turret type unit feeds grease to trolley wheel bearings

Source: J. N. FAUVER CO.
45 W. Hancock, Detroit 1, Mich.

Each trolley gets a "shot"

New design of the Model-304 lubricator, previously described IEN-8272-49, mounts above a trolley track to position two revolving turrets, one on each side of the track. Each turret presents five spring-backed nozzles arranged like the spokes in a wheel. Grease feeds into them by air pressure from a central reservoir. A measured amount is released as a trolley passes.

A cam registers with a detent at the point of release to position the nozzles for the on-coming trolleys. Zerk fittings can be mounted on the trolleys but are not essential.

Each turret is backed up by a lever-operated head so the turret can be retracted when the lubricating action is not required. The assembly is available to meet specified trolley spacings and installation dimensions.

BREVITY—Identify by IEN-1790 if you write the maker

TRUCK . . Foot operated lock contacts floor, stops truck movement

Source: FAULTLESS CASTER CORP.
1519-23 N. Garvin St., Evansville 7, Ind.

Spring backed toggle

Type FTL is a new steel lock for attachment to the underside of a truck. The lock is equipped with a pivoted foot-operated toggle mechanism that is pressed down to lower the gripping pad to the floor. The opposite side is pressed down for release when the truck is to be moved. The disc that contacts the floor is mounted on a ball joint to assure flat contact.

Nine sizes in the line apply normally on trucks equipped with 4 to 8-in. casters. Top plate dimensions are 4 by 5⅝ in. to 5 by 7¼ inches. Effective height for attachment of the top plate above the floor is 5⅝ to 10¼ inches.

BREVITY—Identify by IEN-1791 if you write the maker

STEELS . . Thin electrical steels reviewed as to properties and performance

Armco Steel Corp.
701-5 Curtis St., Middletown, Ohio

Test results occupy 21 of the 36 pages in new bulletin, "Thin Electrical Steels". Most of these performance data are in the form of graphs. They are on three of the company's magnetic insulated iron-silicon alloys in strip form .001 to .007 in. thick, intended for frequencies from 400 to 200,000 cycles per sec. and for pulse components. Types, tolerances, uses are given.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

BREVITY—Identify by IEN-1792 if you write the maker

BREVITY—Identify by IEN-1793 if you write the maker

Save Time, Money in Production, Assembly, Packing and Shipping . . . Use Seamless F.O.S. Industrial Tape

Manufacturers, packers and shippers the country over are speeding operations and cutting costs with Seamless F.O.S. Industrial Tape. Look over some of the time and money-saving uses (left) of pressure-sensitive tape. Check possible uses in your plant. For authoritative advice, samples, and prices, write Seamless—the originators of pressure-sensitive industrial tape.

Do you have a defense contract requiring tape to meet government specifications? We can help you. Wire details collect for 24-hour reply.

OTHER USES
BINDING • BUNDLING • SEALING
PACKAGING • REINFORCING
BACKING • HINGING • INSULATING
SOUND-PROOFING • IDENTIFYING
STENCILING

INDUSTRIAL TAPE DIVISION
THE SEAMLESS RUBBER COMPANY
NEW HAVEN 3, CONN., U. S. A.

BREVITY—Identify by IEN-1794 if you write the maker

MEET

JAN-I-225, 16E4 (Ships) and MIL-I-6181 Specifications for Radio Interference Suppression!

ACE SCREEN ROOMS

Pre-built

Features

1. Attenuation of 100 DB and higher from 0.15 to 10,000 MC.
2. Prebuilt, immediate installation, easy to relocate or to enlarge.
3. Standard and special types and sizes to meet practically any requirement.
4. Special filter entry and door construction.
5. Special service entrance for gas, air, water, etc., when required.

Write, wire or 'phone for details

ACE ENGINEERING and MACHINE CO., Inc.
3644 N. Lawrence St., Philadelphia 40, Pa.
Telephone: REgent 9-1019

▼ BREVITY—Identify by IEN - 1796 if you write the maker ▼

Here's BIG HELP IN TERMINAL WIRING!

The correct wire to correct terminal every time!

The New JONES FANNING STRIP

Connections are made through Fanning Strip, on bench or anywhere apart from barrier strip, and quickly slipped into assembly.

Designed for use with Jones Barrier Terminal Strips Nos. 141 and 142, for 1 to 20 terminals.

9-141 Barrier Strip

Simplifies and facilitates soldering. Insures positive correct connections. Saves time. Ideal for harness or cable assembly. Strong construction: Brass terminals, cadmium plated. Heavy bakelite mounting.

9-161 Fanning Strip. Pat. applied for.

Send for complete data on this new basic improvement!

Jones — HOWARD B. JONES DIVISION

▼ BREVITY—Identify by IEN - 1797 if you write the maker ▼

You can provide easy mobility to a variety of industrial products with

IRONBOUND ALL-PURPOSE HANDLING UNITS . . .

POPULAR IRONBOUND FLO TRUK

● An easy to handle ruggedly constructed unit for carrying bulky and heavy loads at lowest cost. Seven standard sizes with one or two push handles makes it easy to select the proper truck for your requirements. Ask an Ironbound engineer for suggestions.

The HANDY for furniture and similar items. **The HAULER** for cases, crates, tote boxes, etc. **The HUSKY** for general use throughout the plant.

THE IRONBOUND "SAFETY-SKID" WITH ROUND CORNERS

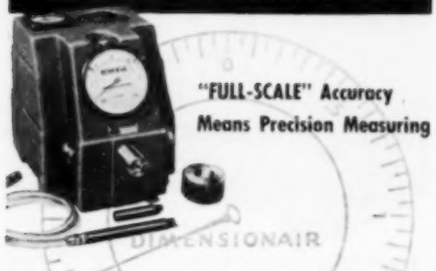
Ironbound construction assures long hard use with complete safety to product and operator. Still the time proven method for handling of materials efficiently and economically.

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
50 HOFFMAN PLACE • HILLSIDE, N. J.

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

▼ BREVITY—Identify by IEN - 1798 if you write the maker ▼

FEDERAL DIMENSIONAIR



"FULL-SCALE" Accuracy Means Precision Measuring

The scale on the dial of this air gage is accurately calibrated to .00005" throughout its entire 7½" length. With the Federal Dimensionair you can rely on the accuracy of readings anywhere on the scale. The Federal Dimensionair has long operating range (.003") with 2500 to 1 magnification, providing for exploring irregularly shaped or tapered holes and permitting the same plug to be used on both rough and finished dimension. This clearance also means longer plug wear. The Dimensionair is easily set with only one master . . . it remains stable for long periods. Ask for demonstration or write for complete information and prices. Federal Products Corporation, 1292 Eddy St., Providence 1, R. I.

FEDERAL
Largest manufacturer of indicating type gages . . . exclusively.

▼ BREVITY—Identify by IEN - 1799 if you write the maker ▼

LUBRICATING . . Pressure line unit feeds oil at adjustable, visible rate

Source: ELLIOTT CO.
49 Kosley St., Jeannette, Pa.

Pint or quart

Pressure Type designates a new lubricator for application in a compressed air or steam line to operating equipment such as portable tools. Rate of oil feed is set by turning a knurled cap on the housing top while observing the feed rate through the sight glass opening at the bottom. Normal setting is between 25 and 50 drops per minute. Each setting will be accurately maintained as long as pressure is on the lubricator since it is pressure and not flow that starts feed and stops it.

Application in a line is in connection with a shut-off valve on the up-stream side. The housing can be refilled after removing a second knurled knob. Finger pressure is sufficient to replace it in oil-tight assembly.

▼ BREVITY—Identify by IEN - 1800 if you write the maker ▼

TESTING . . Coloring compound locates high spots on finished surface

Source: DAYTON ROGERS MFG. CO.
2822-26 13th Ave. S., Minneapolis 7, Minn.

For bearings, machine ways

Bearing Blue is a new formulation of the company's surface-coloring layout fluid, previously described IEN-9225-48. The new material contains ingredients to prevent it from drying out. It is supplied in 1-oz. cans in containers holding 6 units. It also is available in 4-oz. cans. An application of a small amount prior to assembling two mating surfaces and rubbing them together will indicate the high spots that require scraping to produce the required accurate fit.

▼ BREVITY—Identify by IEN - 1801 if you write the maker ▼

DRILLING . . High speed drill, range of sizes from 1/16 to ½ inch

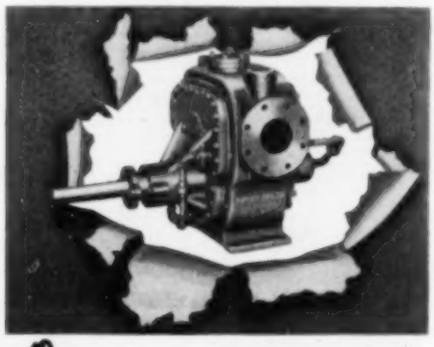
Source: CENTURY DRILL & TOOL WORKS
309-13 S. Green St., Chicago 7, Ill.

Each is color identified

Special hardening and special point grinding feature a new line of drills under the trade name Magic Black. Sizes are from 1/16 to ½ in. with full-diameter straight shanks and from 17/64 to ½ in. with shanks machined down to ¼ in. to apply in a portable drill chuck. Each drill in the line is characterized by its black color for a distance back from the point. Packaging is in individual plastic tubes, envelopes and in sets.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1802 if you write the maker ▼



One pump stands out!

For handling products like asphalt, glue, molasses, grease — one pump stands out, the Kinney Model SD Rotating Plunger Pump. This pump pulls to a 29" vacuum. Its openings are large and unobstructed. Its inner workings are free from valves, blades, springs, or complicated passages. The SD pumping action is smooth and sure . . . its output is so reliable that this Pump often serves as a combined meter and pump. Next time you have a pumping problem, bring it to Kinney. Send for illustrated catalog LS1.

KINNEY MANUFACTURING CO.
3566 Washington Street, Boston 30, Mass.
NEW YORK, CHICAGO, CLEVELAND, HOUSTON, NEW ORLEANS, PHILADELPHIA, LOS ANGELES, SAN FRANCISCO, SEATTLE, FOREIGN COUNTRIES.

▼ BREVITY—Identify by IEN - 1803 if you write the maker ▼

stop blink OF AGING LAMPS

Worn-out lamps won't blink when your fluorescent fixtures use G-E Watch Dog starters. These starters automatically turn off the flickering lamp. When lamp is replaced, push the red reset button, and fixture is back in service. Watch Dogs prevent frayed nerves caused by flickering lamps and reduce emergency calls on maintenance men. Watch Dogs last longer, too. So buy fixtures which display the Watch Dog tag or label. Section Q2-242, Construction Materials Division, General Electric Company, Bridgeport 2, Conn.

Look for the G-E Watch Dog* tag ON FLUORESCENT FIXTURES

*Registered Trademark of General Electric Company

You can put your confidence in . . .

GENERAL ELECTRIC

▼ BREVITY—Identify by IEN - 1804 if you write the maker ▼

UNIVERSAL EXPANDED METAL FLOOR TRUCKS

MODEL 4-A
Length 60", width 30", height 30".

- **Greater Economy**
- **Greater Utility**

Literature Mailed Promptly Upon Request

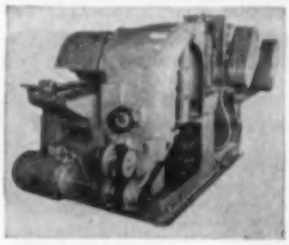
MODEL 4-B
Length 60", width 30", height 48".

Durable, highly maneuverable, economically priced. Designed to meet a wide range of material handling jobs. Rigid angle iron frame. Equipped with four 4" ball-bearing fiber casters —swivel casters centered at front and rear; rigid casters centered on each side. Model 4-B has hinged drop panels on side equipped with positive safety latches.

● Also other types of expanded metal containers in sizes and quantities to customer's specifications.

INDUSTRIAL ENGINEERING & MFG. CO., INC.
BRIMFIELD INDIANA U.S.A.

▼ BREVITY—Identify by IEN - 1805 if you write the maker ▼



Worthington Allspeed Drive Tandem Belt Design

Its two-belt tandem design permits the widest range of instantaneous, stepless variations . . . far greater than single belt drives.

The tandem's narrower belt reduces flex wear, increases belt life (it's less affected by side compression).

Other features: easy replacement—all wearing parts bronze bushed—shielded, life-lubricated bearings. In-line input and output shafts. Can run in any direction. Available in 6 sizes from 1-15 hp, up to 16-1 ratios. Supplied with or without standard NEMA Frame 1750 rpm motors. Upright or horizontal frame. Extended control yoke available. *Worthington Pump and Machinery Corporation, Allspeed Drive Division, Holyoke, Mass.* A5.1.6

WORTHINGTON

THE GOOD RIGHT HAND OF INDUSTRY

BREVITY—Identify by IEN - 1806 if you write the maker

Multi-Stage High Pressure Vertical Centrifugal Pumps

EFFICIENT PUMPING

Sectional and exterior views of 4-stage pump Fig. 6606-4.

● Applications: Boiler feed service where temperatures do not exceed 250°F. Many other uses where liquids handled are non-corrosive to iron and bronze. Pumps furnished in 2, 3, 4 or 5-stage construction. Capacities from 10 to 45 G.P.M. Write for complete details.

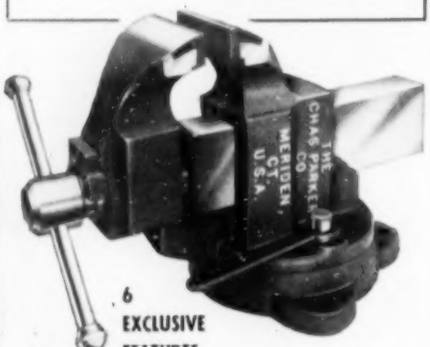
THE DEMING COMPANY
521 Broadway • Salem, Ohio

DEMING
PUMPS AND WATER SYSTEMS

BREVITY—Identify by IEN - 1807 if you write the maker

PARKER VISES

Complete Line Including
HINGED PIPE VISES • WOODWORKERS' VISES



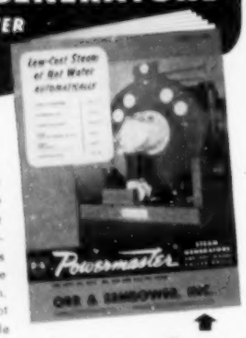
6 EXCLUSIVE FEATURES

Write for catalog
Sold 100% through distributors

THE CHARLES PARKER CO.
MERIDEN CONNECTICUT

BREVITY—Identify by IEN - 1808 if you write the maker

Powermaster®
Fully Automatic
STEAM GENERATORS
and HOT WATER BOILER UNITS
Save Fuel!



For light oil, heavy oil, gas and gas/oil firing. Steam generating units from 15 to 500 HP.—15 to 200 p.s.i. Hot water boiler units 30 p.s.i. Reduce operating costs as much as 40% — save man-hours — get clean, dependable heat and hot water. A.S.M.E. Code construction.

Write For Bulletin

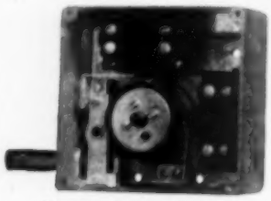
ORR & SEMBOWER, INC.
860 Morgantown Rd., Reading, Pa.

BUILDERS OF DEPENDABLE BOILERS SINCE 1885

BREVITY—Identify by IEN - 1809 if you write the maker

SWITCH . . Rotating limit design for reversing duty on moving elements

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.



Over-travel cannot damage

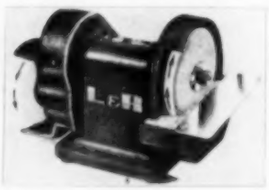
Two Switchette sensitive push-button switches are assembled inside a die-cast housing in this new limit switch. The housing measures about 4 by 2 by 4 inches. It is available with a die-cast cover. It also is made in water-tight and explosion-proof form in cast-iron housings.

Each switch employs one normally-open and one normally-closed circuit and is operated independently by two cams mounted on a shaft driven by a worm and gear. The cams are adjustable, after loosening two clamping screws, to provide on-off operation on any setting between 1 and 110 turns of the drive shaft with 5 turns over-travel in either direction. The assembly is designed to replace four previous forms in control of equipment such as valves on machinery, moving elements in equipment of various types, motor-operated doors.

BREVITY—Identify by IEN - 1810 if you write the maker

GRINDING . . Motor driven machine designed particularly for glass lenses

Source: L & R MFG. CO.
575-79 Elm St., Arlington, N. J.



Lists at $71.50

Ball-bearing motor is belt connected to the drive shaft in this recently improved Crystal machine to rotate a 5-in. grinding wheel at 1,750 rpm. and a felt buffing wheel at 2,700 rpm. The buffing wheel is geared to the main shaft so it operates in opposite direction from that in which the grinding wheel is driven. The motor is universal design for 110-volt ac. or dc.

The grinding wheel on the right-hand side of the machine is equipped with a water trough and a molded sponge for even distribution of the water. A work table is mounted on the outside edge of the trough.

BREVITY—Identify by IEN - 1811 if you write the maker

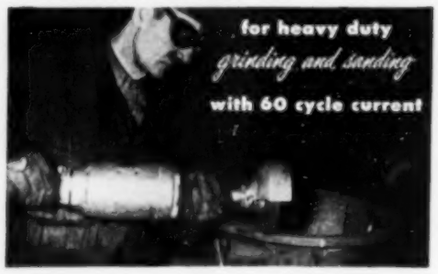
PACKAGING . . Outlook for materials reviewed in booklet along with military requirements

American Management Association
330 W. 42nd St., New York 18, N. Y.

Report of a panel session is given in Booklet No. 37 of the Association's Packaging Series. The 60-page booklet lists at $1.25. It presents the future outlook for adhesives, packaging film, foil and metal containers, paperboard, glass, paper, wood. Another article describes military packaging requirements and how to organize for shortages.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1812 if you write the maker



no brushes — no armature windings to burn out

If your maintenance on portable electric grinders is a problem, look into the advantages of CP-460 Grinders and Sanders for heavy-duty work. Operating on 60 cycle, 3 phase, 220 AC, a powerful, lightweight induction motor maintains uniformly high speed under load. Since a solid rotor, without windings is used, there are no brushes, commutators or armatures to burn out — so maintenance is extremely low. Write for information on various models available.

CHICAGO PNEUMATIC TOOL COMPANY
General Offices: 8 East 44th Street, New York 17, N. Y.

PNEUMATIC TOOLS • AIR COMPRESSORS • ELECTRIC TOOLS • DIESEL ENGINES
ROCK DRILLS • HYDRAULIC TOOLS • VACUUM PUMPS • AVIATION ACCESSORIES

BREVITY—Identify by IEN - 1813 if you write the maker

NO INSTRUCTIONS NECESSARY WITH THIS EXTINGUISHER!

IT'S A RANDOLPH!

From Bracket to Blaze in split seconds! No valves to turn, no nozzles to adjust; just point and press your thumb and Randolph's cloud of snowy CO_2 kills fire instantly. Non-damaging, non-toxic, won't conduct electricity, deteriorate or freeze. A complete line of extinguishers. Underwriters' approved. Write for catalog to RANDOLPH LABORATORIES, INC.
6 E. Kinzie St.
Chicago 11, Ill.

BREVITY—Identify by IEN - 1814 if you write the maker

TYPE F43A

A DUAL SWITCH THERMOSTAT FOR USE FROM -150°F to +600°F

Manufacturers with thermal control problems similar to those encountered in water baths, industrial ovens, hot plate presses, coffee roasters and heating equipment should investigate the Type F43A dual switch thermostat. It is a precision-built temperature control available with a wide variety of thermal assemblies and switches for use between -150° F and +600° F. It can control two separate circuits simultaneously as required, for instance, in an air conditioning system where a fan control and compressor control are required.

Write for bulletin #3-4 which gives full specifications.

UNITED ELECTRIC CONTROLS COMPANY
80 School Street, Watertown, Mass.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

BREVITY—Identify by IEN - 1815 if you write the maker

this new WELDING DESIGN MANUAL
FREE!
FOR THE ASKING

To assist you in your re-tooling problems . . . or to help you analyze your present welding methods so that you may enjoy maximum speed, efficiency, and economy in many of YOUR production problems....

Giant new 4th Edition contains 62 new photographs, 132 new drawings, 72 pages of helpful data covering basic and advanced welding techniques and designs used in fabricating and assembly. Profusely illustrated with application drawings; weld diagrams; tables of melting temperatures, strengths, corrosion factors; charts; alloy recommendations; etc. Convenient digest size.

This just-off-the-press book is "must" reading for anyone engaged in defense production and design, and will certainly be time profitably spent for any production man.

SEE . . . The unbelievable savings in metal-joining which can now be yours through the use of "Low Temperature Welding Alloys"® discovered a few years ago and now used in over 78,000 industrial plants throughout America for more efficient metal-working production as well as for salvaging irreplaceable tool and machine parts. Over 100 different, new, EUTECTIC Low Temperature WELDING ALLOYS® and EUTECTOR® Fluxes are job-engineered for use on ALL metals—cast iron, alloy steels, aluminum, copper and nickel alloys, die castings, overlays, etc., and may be applied with ALL heating methods—torch, arc, furnace, induction heating, etc.

SEND FOR YOUR COPY TODAY!

EUTECTIC WELDING ALLOYS CORPORATION
172nd Street at Northern Boulevard • Flushing, New York, N. Y.

▼ BREVITY—Identify by IEN - 1816 if you write the maker ▼

New! Low-Cost! Wide-Range!

VARIABLE Speed Sheaves

Easily Attached to Any Machine

1/15 TO 15 HP.
RATIOS UP TO 8:1

● Simple, sturdy Speed Selector Sheaves are applied to any machine in only a few minutes . . . giving you wide-range speed control at extremely low cost. You get wide speed variations with standard V-belts, since two variable pitch sheaves are used. Eliminates bulky sliding motor bases, movable jackshafts and wide, high-cost special V-belts.

• Standard V-belts • Automatic belt alignment
• Fixed shaft centers • LOW COST

Write FOR FREE BULLETIN

SPEED SELECTOR INC.

118-A Noble Court • Cleveland 13, Ohio

▼ BREVITY—Identify by IEN - 1817 if you write the maker ▼

you GO with OHIO GREEN

WORLD'S FINEST SLITTER KNIVES AND SHEAR BLADES made in OK Battle Axe, OK Dura Chrome and OK Standard.

The cutters shown are used on gang slitters — side trimmers and for tin plate. They are held to ± .00025 tolerances and are given an extremely high finish. Closer tolerances can be furnished on request.

We also furnish hardened and unhardened spacers with the same close tolerances and high finish as the slitters.

The large shear blade shown is furnished in the above three grades for shearing any type of metal and are made to fit any machine. Send us your inquiries giving quantities and sizes.

OK ROTARY SHEARS-BLADES are designed to give maximum service — tough as they come!

OHIO KNIFE Co. CINCINNATI 23, OHIO

WORLD'S LARGEST EXCLUSIVE MANUFACTURERS OF KNIVES

▼ BREVITY—Identify by IEN - 1819 if you write the maker ▼

TRUCK . . Two wheel hand design with load holding strap and tightener

Source: NUTTING TRUCK & CASTER CO.
2010 W. Division St., Faribault, Minn.

Rubber belts form crawler tread

Figure 1039 is recently improved design of the company's hand truck to move equipment such as refrigerators, water heaters, oil burners, deep-freeze units, television sets. The assembly includes a steel tubular frame, solid rubber wheels, Oilite bearings, a crawler assembly for movement over curbings and stairways and a 5-ft. by 14-ft. web strap with a ratchet-operated tightening mechanism.

Load capacity is 500 pounds. Weight is 45 pounds. Overall dimensions are 16 in. in frame width by 60 in. in overall height by 24 in. in nose width and 5 in. in nose length.

▼ BREVITY—Identify by IEN - 1820 if you write the maker ▼

STEEL . . Flat ground die stock hardens in air, contains chromium

Source: SIMONDS SAW & STEEL CO.
468-72 Main St., Fitchburg, Mass.

Instructions on each wrapper

Chromium content of a new air-hardening die steel that has been developed by the company makes the steel resistant to wear. The new material can be used for gages, tools, punches, dies. It is supplied in 43 stock sizes from ½ by 2-in. to 2 by 10-in. section. Each piece measures 36 in. in length and is individually packaged.

All sizes are ground to a thickness limit of plus or minus 0.001 in. and to provide a surface finish of 25 to 35 micro-inches. Edges are parallel and square with the flats. Scale, decarburization and surface defects are completely removed so each is ready for scribing, machining and heat treating.

▼ BREVITY—Identify by IEN - 1821 if you write the maker ▼

HEATING . . Gas fired torch designed to seal off glass tubes

Source: RESEARCH VACUUM SUPPLY CO.
3436 W. Montrose Ave., Chicago 18, Ill.

New torch mounts a U-shaped head carrying three grid-type fish-tail burners placed so the three flames converge at a central point. When the torch is applied to an evacuated glass tube the flames soften a narrow circular band causing the tube to collapse at that point and seal itself to hold the vacuum.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

▼ BREVITY—Identify by IEN - 1822 if you write the maker ▼

WHY FIGHT frozen Studs, Nuts or Bolts?

"JOHN CRANE" PLASTIC LEAD SEAL*

stops leaks.... prevents thread seizure

Why use a red or white lead pipe dope on your threads, when Underwriters' Approved non-hardening Plastic Lead Seal will do the job so much better?

It costs no more to use the best. The original application is no more expensive — yet it means that you can forget leakage worries...that you will never be faced with breaking a frozen connection, stud, bolt, or nut!

Make your first Plastic Lead Seal application now. Write us — we'll send a free sample.

JOHN CRANE CRANE PACKING COMPANY
1615 CUYLER AVENUE • CHICAGO 13, ILL.

▼ BREVITY—Identify by IEN - 1823 if you write the maker ▼

ARE LITTLE LEAKS CAUSING YOU BIG LOSSES?

No. 304-N Sylphon Packless Valve comes in sizes from ½" to 2" for pressures up to 150 lbs. Also available in larger sizes is No. 1304 with flanged connections for liquid pressures up to 80 lbs. No. 304-NP is ideal for vacuum service.

Stop them with SYLPHON PACKLESS VALVES

● Costly leaks of valuable liquids or gases can be *stopped for good* . . . with Fulton Sylphon Packless Valves. They prevent waste—provide vacuum protection—help your equipment operate more efficiently and economically.

A dual-ply, seamless Sylphon metal bellows replaces customary packing . . . provides a positive seal. Many sizes and types, with body made of brass, bronze, cast iron, cast steel, stainless steel or monel.

Widely used in the processing industries—chemical plants, oil refineries; also in power plants, aboard ships. Ideal for standard equipment. Write for Bulletin CN-413.

FULTON SYLPHON DIVISION

ROBERTSHAW-FULTON CONTROLS CO. • • KNOXVILLE 4, TENN.

Temperature Controls • Bellows Devices • Bellows Assemblies

Canadian Representatives, Darling Brothers, Montreal

▼ BREVITY—Identify by IEN - 1824 if you write the maker ▼

WRENN PAPER COMPANY

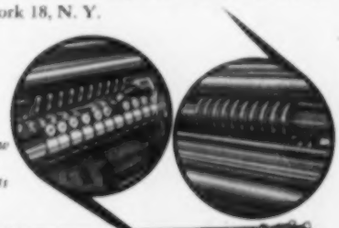
SELECTS B&S SHEAR-CUT SLITTER-REWINDER

The Wrenn Paper Company, widely recognized for its high quality products, was faced with the problem of slitting a hard-to-handle material. Clean, square edges and uniformly wound rolls were of utmost importance.

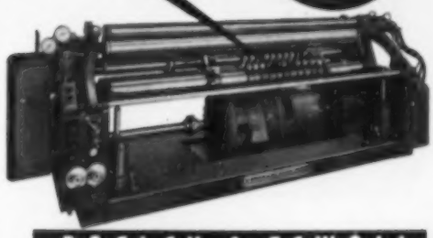
After considering several machines, the Bagley & Sewall #15 Shear-Cut Slitter-Rewinder was selected.

B & S Slitters and Rewinders are doing outstanding jobs in mills and converting plants all over the country. Their many unique money-saving advantages make them the first choice of the industry. Before you buy, *compare*...and your choice, too, will be B & S Slitting and Rewinding equipment.

For full details write to The Bagley & Sewall Company, 500 Fifth Avenue, New York 18, N. Y.



Inserts show Shear-Cut Slitter Units



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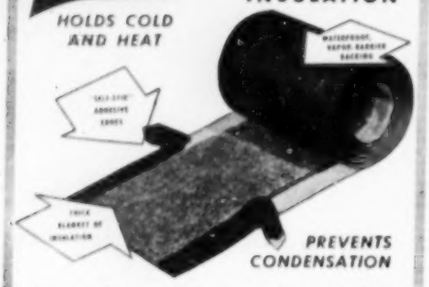
Self-Stik DRI-PIPE INSULATION

HOLDS COLD AND HEAT



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Goes on fast, saves time, cuts costs. Ideal for low-temperature applications—cold water lines, cold air ducts, refrigeration lines. Also used extensively for warm water lines, warm air ducts and for sound deadening.

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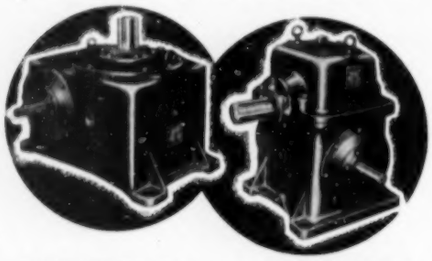

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New developments in manufacture provide precision generated gears which give improved performance and greater load-carrying capacity.

Available in horizontal, vertical and Hytop designs. Ratios up to 4108 to 1 or higher when required.

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This new MOGUL unit is built to deposit lead and tin base solders, silver solder and brazing wires in a liquid or semi-liquid form to any constant moving part.

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Saves Time • Saves Solder

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NEW LITERATURE

Brief reviews to advise you of available new information published by the manufacturers covering products they offer for your use. Each includes identification, size of the material, information it contains so you can judge its value to you.

ALLOYS . . Aluminum bronze and other copper-base alloys; condensed information on physical properties, corrosion resistance, suggested mechanical applications. Bulletin G-1, 4 pages. Ampco Metal Inc., 1743-47 S. 38th St., Milwaukee 46, Wis. IEN-0123

ALLOYS . . Of titanium and zirconium, also ceramic materials and chemicals; 22 by 11-in. chart of analyses and physical properties folds to pocket size. "TAM Products" Titanium Alloy Mfg. Div., 111 Broadway, Room 1815, New York 6, N. Y. IEN-0124

BENDING . . Press brakes, 120 to 1,000 ton, for mild steel to 1 in. thick and to 20 ft. in length; descriptions, data on nine models, pressure table. Bulletin 107, 8 pages. Columbia Machinery & Engineering Corp., High & 4th Sts., Hamilton, Ohio IEN-0125

BENDING . . Production-type tube-bending machine, pneumatic operation; illustrated three-step cycle, models for tube to 2 in. diameter, list price. "Bend-Ex Model A," 4 pages. Paul Machine Tool & Die Works, 4602 S. Kedzie, Chicago 32, Ill. IEN-0126

BOILERS . . Series-AG package-type steam generator; construction details, capacity tables on units for 250, 325 and 825 lbs., controls. Catalog PG-51-2, 24 pages. Foster Wheeler Corp., 165 Broadway, Room 2505, New York 16, N. Y. IEN-0127

BROACHING . . Individual tools and sets for hand-press use to cut keyways 1/16 to 1 in. wide in bores from ¼ to 3 in.; sizes, combinations, keyway data, instructions. "Minute Man," 8 pages. duMont Corp., 152 DuMont St., Greenfield, Mass. IEN-0128

BURRING . . Rotary files and burs, ground from the solid in high-speed steel and carbide; full-size line drawings, dimension and list-price tables, application notes. Bulletin 51-812, 12 pages. DoAll Co., 252-56 N. Laurel Ave., Des Plaines, Ill. IEN-0129

CAPACITORS . . Dry electrolytic, metallized-paper, miniature types for electronic use, also interference filters; types, ratings, dimensions, list prices. Catalog AC-3, 24 pages. Astron Corp., 253-57 Grant Ave., East Newark, N. J. IEN-0130

CEILING . . Combination acoustical and radiant-heating or cooling ceiling construction; details on components, performance, installation. Bulletin A-102, 8 pages. Burgess-Manning Co., 5068-72 Northwest Highway, Chicago 31, Ill. IEN-0131

CENTERS . . "Red-E-Tool" standard and live machine centers, also pipe and bull-nose centers; sectional views, together with tool holders, dogs, bits, cutters. Pocket folder, 12 pages. Ready Tool Co., 502-56 Iranistan Ave., Bridgeport 5, Conn. IEN-0132

CHEMICALS . . "Hystrene" stearic acid; specifications on two grades with 70 and 97 per cent content, color-stability graph after exposure to 225 deg. F. Pocket folder CD-57, 4 pages. Atlas Powder Co., 904 Market St., Wilmington 99, Del. IEN-0133

CHEMICALS . . Synthetic organic; physical properties on some 300 products by groups such as alcohols, esters, nitrogen compounds, aryl chemicals. Booklet F-61363E, 16 pages. Carbide & Carbon Chemicals, 30 E. 42nd, Rm., 1213, New York 17, N. Y. IEN-0134

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

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SPEED UP SLOW-FLOW MATERIALS

TARS
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Four multi blade rotors revolve at high speed in opposite directions, under impact of air movement through non-aligned rotor spaces. Moisture, dirt and other foreign matter which collect on rotor blades are thrown out of air stream by centrifugal force to side of housing and pass into drain.

For paint and lacquer spraying, ceramic, sand blasting, air cleaning, etc. Easily replaces less efficient baffle type devices. Tell us details of your problem when you write for a catalog.

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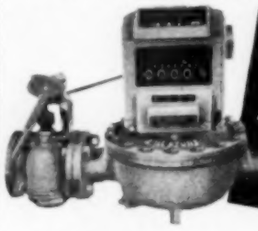

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AFTER Oil-Mist: The same grinder has been running 1,113 hours—*and the spindle is operating as satisfactorily as if new bearings had just been installed.* After deducting the cost of Oil-Mist plus installation, this one unit has shown a savings of over $600!

what is... OIL-MIST?

A PRODUCT OF SW STEWART WARNER

It is a new, unbelievably simple lubrication system that atomizes oil into mist and distributes it through tubing to bearings. Oil-Mist bathes all bearing surfaces with fresh, clean, cool oil film. Uniformly maintains oil film on plain and anti-friction bearings, gears and chains regardless of variations in load, temperature or speed! No "peaks and valleys" of lubrication.

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Get the facts NOW!

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*Name on request

NEW LITERATURE—Continued

CHEMICALS . . Fatty acids, derivatives, textile oils, plasticisers, emulsifiers: summary on materials grouped under these headings, notes on service. "Emeryfacts," 8 pages. Emery Industries Inc., 4219 Carew Tower, Cincinnati 2, Ohio IEN-0135

CHUCKS . . "Levermatic" lever-operated collet chuck, 1/8 to 2 in.; cut-away view to show operation, size table, uses, also data on "Handmatic" wheel-operated chuck. "Levermatic," 8 pages. Sutton Tool Co., 51 Taylor St., Sturgis, Mich. IEN-0136

CLEANING . . "Tornado Noiseless" vacuum cleaner with sound-deadening construction and a radio noise filter; data on two designs, attachments. Bulletin 606, 4 pages. Breuer Electric Mfg. Co., 5608-5102 Ravenswood Ave., Chicago 40, Ill. IEN-0137

CLEANING . . Portable vacuum cleaner with 1¼-hp. motor; description, illustrated uses with attachments for floors, pipes, boiler tubes, wet cleaning. "Red Streak Model SH," 4 pages. National Super Service Co., 1941 N. 12th St., Toledo 2, Ohio IEN-0138

CONDUCTORS . . Electric wire, cable and cords; catalog data arranged for product-design use with application notes and a set of data tables. Bulletin 19-470, 24 pages. General Electric Co., 1283-87 Boston Ave., Bridgeport 2, Conn. IEN-0139

CONNECTORS . . "Triplor" electric plugs and receptacles for detachable power, lighting, control, communication circuits; construction, stock units, ratings. Bulletin 603, 4 pages. Pyle-National Co., 1348 N. Kostner Ave., Chicago 51, Ill. IEN-0140

CONSTRUCTION . . Pointing mortar for masonry; notes on the expands-as-it-sets feature, use of the material as a brush coating, applications. Pocket folder, "How Long Is Permanent?" 8 pages. X-Pando Corp., 43-17 30th St., Long Island City 1, N. Y. IEN-0141

CONTROLS . . Contact-making meter and relay for temperature and other process control; operating description, models, ranges, list prices, accessories. Bulletin G-1, 4 pages. Assembly Products Inc., Bell & Main Sts., Chagrin Falls, Ohio IEN-0142

CONTROLS . . Pyrometers, flow meters, thermometers, pressure gages, power-operated valves, other controls, accessories; condensed review on some 100 types. Catalog 5000, 28 pages. Brown Instruments Div., 4456 Wayne Ave., Philadelphia 44, Pa. IEN-0143

CONTROLS . . Push-pull remote mechanical position controls, aircraft cable with spherical steel shells inside a sealed housing; sizes, ratings, fittings. Catalog 1551, 8 sheets. Southwest Products Co., 8-12 S. Catalina Ave., Pasadena 1, Calif. IEN-0144

CONVEYING . . In-floor roller track and flat dollies to handle heavy loads such as large rolls of paper; drawings and details, turntables, uses. Catalog A-51, 12 pages. Engineering Products Co., 120-24 S. Michigan Ave., Chicago 3, Ill. IEN-0145

CONVEYING . . "Zipper" closed-belt conveyor for bulk material; details on zipper-tooth operation, installation schematics for horizontal and vertical use. Bulletin 349, revised, 16 pages. Stephens-Adamson Mfg. Co., 231 Ridgeway, Aurora, Ill. IEN-0146

CRANES . . Rubber-tire mobile cranes, 1¾ to 23 ton in 8 sizes; specification summaries with dimensions, condensed data, lift-capacity tables, illustrated uses. "Mobile Cranes," 8 pages. Coles Cranes Inc., Box 942-A, Dept. 88, Joliet, Ill. IEN-0147

DRILLING . . Bench and floor model drilling machines, single and multiple, 1-in. capacity; construction, specifications. Catalog D-108, "Canedy-Otto 16 in. 3000," 8 pages. Cincinnati Lathe & Tool Co., 3295-9 Disney St., Cincinnati 9, Ohio IEN-0148

DRILLING . . Heads for single or multiple installation, air-hydraulic operation; schematic operating diagrams, cycle control, specifications. Catalog AD-684, 12 pages. Delta Power Tool Div., Rockwell Mfg. Co., 614 E. Vienna St., Milwaukee 1, Wis. IEN-0149

DRIVES . . Hydro-pneumatic accumulator to absorb and cushion shock in hydraulic-operated equipment such as bucket loaders, power shovels; operating sequence, sizes. Bulletin 700, 4 pages. Greer Hydraulics Inc., 464 18th St., Brooklyn 15, N. Y. IEN-0150

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Has Hundreds of Structural Uses in Modern Plants

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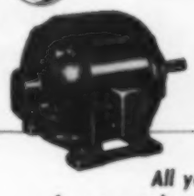

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- ☐ #4199 Resin Glue (Palmer, Brightwood-Wax Stocks)
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- ☐ Lignolite Casein Wood Glue
- ☐ ADHESIVE OPERATION DATA SHEET (You fill in and return for laboratory recommendation.)

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FRICTION RUBBER
MADE BY JENKINS BROS MAKERS OF FAMOUS JENKINS VALVES

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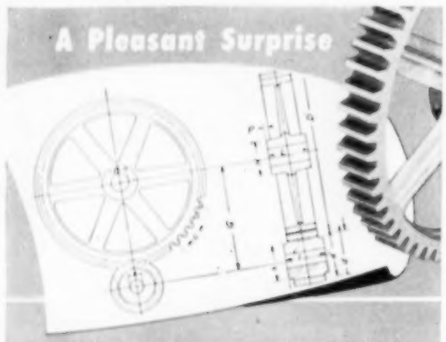

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EARLE GEARS

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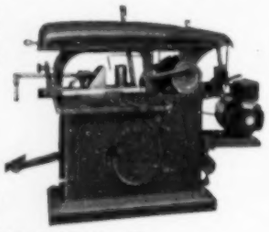

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NEW LITERATURE—Continued

DRYING . . "Ruggles-Coles" rotary dryers; cut-away views and application notes on six types for process materials, typical flow sheet to show where employed, also rotary kilns, coolers. Bulletin AH-438, 6 pages. Hardinge Co., 238-42 Arch St., York, Pa. **IEN-0151**

DUST COLLECTING . . "Dustkop" units to remove vapor, mist, fog resulting from machining operations; capacity table on five models, illustrated uses with machine tools. Bulletin 622, 4 pages. Aget-Detroit Co., 401 Main St., Ann Arbor, Mich. **IEN-0152**

DUST COLLECTING . . "Dustube" cloth-tube units for dust and fumes; operating features, construction details, size and specification tables. Catalog 72-B, 36 pages. American Wheelabrator & Equipment Corp., 553-57 Byrkit St., Mishawaka, Ind. **IEN-0153**

ENGINES . . Cold-starting fluid for diesel and gasoline engines in weather to 50 deg. below zero; properties, capsule packaging, installation. "Chevron Starting Fluid," 24 pages. California Oil Co., 7710 Empire State Bldg., New York 1, N. Y. **IEN-0154**

FILING . . Steel rotary files in ground-from-solid and hand-cut types, both with ¼-in. shafts; illustrated available shapes, dimensional tables, use. "Etro Files," 8 pages. Etroflie & Tool Mfg. Corp., 216-220 Richardson St., Brooklyn 22, N. Y. **IEN-0155**

FLOORS . . Rectangular steel bridge flooring to carry a 20-ton highway load on a 15-in. circle to a 48-in. span; drawings, welding diagrams, splicing. Catalog IQ-35, 4 pages. Kerlow Steel Flooring Co., 224 Culver Ave., Jersey City 5, N. J. **IEN-0156**

FLOORS . . Material to resurface floors of wood, concrete, brick, asphalt in industrial plants; properties, application instructions. Pocket folder, "No Floor Chopping," 12 pages. Stonhard Co., 1304-8 Spring Garden St., Philadelphia 23, Pa. **IEN-0157**

FURNITURE . . "Hallowell" steel shop equipment including benches, tool stands, stools, chairs, cabinets, desks; illustrated review with dimensions, weights. Pocket folder S08-1, 12 pages. Standard Pressed Steel Co., Box 14-A, Jenkintown, Pa. **IEN-0158**

GAGES . . Type-EMB low-pressure cells using company's SR-4 strain gages for gas or liquid at 10 and 100 lb. maximum; wiring diagram, electrical data. Bulletin 326, 2 pages. Baldwin-Lima-Hamilton Corp., Paschall P. O., Philadelphia 42, Pa. **IEN-0159**

GAGES . . "Comtorplug" internal-type dial micrometer gage; illustrated application steps, instructions on standard units, examples of special work, plugs. Bulletin 46, 8 pages. Comtor Co., 77 Farwell St., Waltham 54, Mass. **IEN-0160**

GAGES . . Non-frosting liquid-level gages for low-temperature fluids; sectional views on construction of standard and large-chamber designs. Catalog Sheet No. 177, 2 pages. Jergenson Gage & Valve Co., 89 Felleway, Somerville 45, Mass. **IEN-0161**

GAGES . . Unit to measure thickness of moving sheet material without mechanical contact; operating principle, based on use of a radio-isotope, models, specifications, uses. "Beta Gauges," 12 pages. Tracerlab Inc., 130-A High St., Boston 10, Mass. **IEN-0162**

GENERATORS . . Series-WA steam-turbine generator units in 2,000 to 7,500 kw. ratings; picture review of design and construction details, ventilation. Bulletin 03-B-7654, 8 pages. Allis-Chalmers Mfg. Co., 969 S. 70th St., Milwaukee 14, Wis. **IEN-0163**

GENERATORS . . Emergency stand-by power plants with gasoline or diesel-engine drive; descriptions and specification table on 700-watt to 36-kw. units. Folder BQE-1, 4 pages. Universal Motor Co., 310 Universal Drive, Oshkosh, Wis. **IEN-0164**

GRINDING . . Mounted wheels and points, abrasive discs and bands, steel burs, carbide burs; dimensioned drawings, tables of sizes and list prices, mandrels. Catalog 22, 8 pages. Metal Removal Co., 1544-48 N. Orleans St., Chicago 10, Ill. **IEN-0165**

GRINDING . . "Micro-Form" machine for profile grinding from a drawing; operating description, notes on functions performed, specifications, typical work. Bulletin MFG 122-51, 8 pages. Sheffield Corp., 719-23 Springfield Ave., Dayton 1, Ohio **IEN-0166**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

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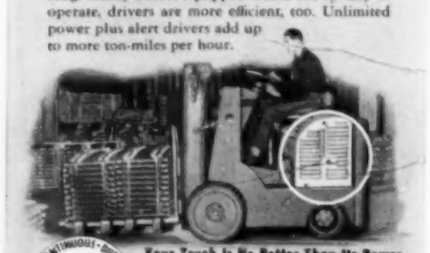

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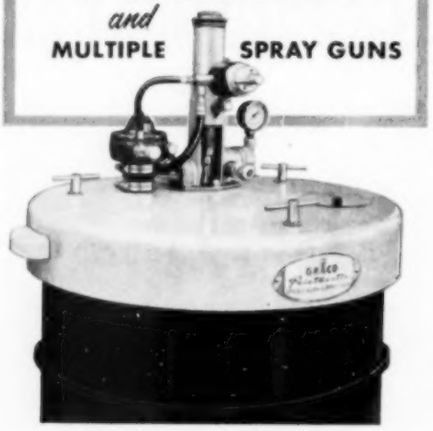
SUPPLIES LONG LINE CIRCULATING SYSTEMS *and* MULTIPLE SPRAY GUNS



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Choose from a wide range of models for any plant purpose. Call your ElectroLift representative listed in the classified telephone directory. Or write to:

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Centrifugal Type . . . Single and Multi-stage . . . ½ lb. to 7 lbs. pressure . . . ½ h.p. to 500 h.p.

Constant pressure maintained—no controls or regulating devices required for power, pressure or relief.

No internal lubricant required—hence, air is delivered clean and dry.

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Agitation and Aeration, Cooling and Ventilation, Combustion, Gas and Acid Manufacturing, Conveying, and other applications with various pressure or vacuum requirements.

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TESTING . . Pneumatic equipment checks 5, 30, 55 gal. drums for leakers

Source: DRUM EQUIPMENT CORP. 945-49 Lehigh Ave., Union, N. J.

Green light indicates O.K.

Dero No. 4-LDS is new portable equipment for connection to a shop air line and to a 110-volt 60 cycle ac. circuit to test drums and containers for possible leakage. The unit measures about 16 by 16 by 48 inches. It weighs 150 lb. in the standard model, about 250 lb. in explosion-proof construction. One operator can check about 500 drums in an 8-hour work period.

Incoming air at 40 to 100 lb. from the shop line passes through a regulator which reduces it to between 20 and 25 pounds. This reduced pressure issues through a valve when the operator presses and holds down a push button on the housing top, after connecting the outlet hose to the container to be tested by means of its quick-acting coupling.

The operator releases the push button when pressure in the container reaches 6 lb. as indicated by a gage on the housing top. At the same instant a red light which turned on when he pressed the push button now turns off and a green light takes its place for the ensuing 45 sec. of test interval as controlled by the factory-set timer. If the container is air tight the green light will remain on for the interval. It then goes out and the operator disconnects the hose and applies it to the next container. If the red light comes on during the test interval it indicates that the drum leaks.

Color change is by means of a pressure-operated switch in the air line between the drum and the test equipment. Time can be varied from 10 to 60 sec. by a hand adjustment. The 45-sec. factory setting is made to conform with specifications of the Armed Services and the Bureau of Explosives.

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TRUCK . . Caster mounted box unit has single piece molded Fiberglas body

Source: LAMINEX CORP. 992-96 Jefferson St., Fall River, Mass.

No body fastenings

Sizes range from 30 by 20 by 20 in. to 75 by 48 by 36 in. in this new line of molded Fiberglas box-body trucks. Load capacity for the smallest unit is 200 lb. and for the largest one 3,500 pounds. Construction includes a rounded reinforcing top rail, integral ribs, smooth interior and exterior, curved radii in all corners so there is nothing that might damage delicate materials.

The body will not collect static electricity. It is not subject to attack by a wide variety of chemicals. Cleaning presents no problem. General list price is about 60 per cent of the price of an equivalent stainless steel truck.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1852 if you write the maker ▼

FOR HEAVY DUTY CUTTING IT'S THE BAKER TRU-EDGE SHEAR

CHECK THESE FEATURES

- BURR FREE EDGE
  no finishing operation necessary
- EASY TO OPERATE
  no starting hole necessary
- 48" THROAT
- DOES BEADING AND FORMING
- CUTS 10 TO 56 FEET PER MINUTE
- ONLY 5 MOVING PARTS
- CAPACITY 6 GAUGE IN MILD STEEL
  7 GAUGE IN STAINLESS STEEL
- DELIVERY FROM STOCK
- COST . . . $1960.00 f.o.b. TOLEDO

In actual cases on record, the Baker Tru-Edge Contour Shear cuts operating time to less than 1/10 of the time required on other machines. The Tru-Edge Contour Shear is made by Baker Brothers, Inc., under license from Industrial Devices Corp., Detroit, Mich.

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Makers of Better Machine Tools . . . Since 1867

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Four-cycle Air-cooled

Kohler Engines provide reliable power for a wide range of uses. Compact, quick-starting. Engineered and built to the high standards that have won world-wide acceptance for Kohler Electric Plants in construction and other industries. The Kohler mark has been identified with quality products for over three-quarters of a century. Write for information on sales and service franchise.

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PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS
AIR COOLED ENGINES • PRECISION CONTROLS

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Let this all-purpose

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save money in Your plant

Use it for PLANT MAINTENANCE

Use it for CRATING AND BOXING

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Here is the ideal, all-purpose machine you need to cut costs and step up production in your plant. DeWalt is *many* machines in one! It dadoes, routs, shapes, tenons, grinds, sands, etc.! It's fast, accurate, safe, dependable. It takes up little floor space—and streamlines all your cutting operations. Write for catalog. DeWalt, Inc., Dept. IE-2 Fountain Ave., Lancaster, Penna.

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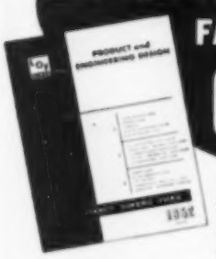

Saves time in designing and specifying, suggests economical ways of using flat glass in place of other scarce, expensive materials.

Complete specifications, including thicknesses, sizes, weights and physical characteristics of all types of flat glass are tabulated in this condensed, easy-to-read booklet. The information it contains is ideal for users, designers and buyers of glass for all types of industrial applications—sheet glass, polished plate glass, *Electrapane** (electrical conducting glass), *Thermopane** insulating glass, *Tuf-flex** tempered plate glass, safety glass and *Vitrolite** opaque colored glass.

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RE-NU TOP
STEEL-BOUND
SKID PLATFORMS

BUILT TO LAST A LIFETIME

500 LB. LOAD UP TO 10 TONS

Designed to fit your loads and equipment. Plain bolted construction for use with hand lift trucks or bolted and welded wider frame with armored ends for rough handling by powered trucks. Special purpose skids can be equipped with end racks, shelves, stake pockets, crane hooks, rounded corners and other special features.

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- Name and kick plates, trays, decorative hardware, axes
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For flash removal to mirror finish . . . a Clair Surface Finishing Machine may be the economical solution to your small product finishing problems. From the seven extremely versatile basic designs, a "custom-made" machine may be developed for your particular application. *Write for technical data.*

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ARBOR PRESS

For EFFICIENCY and ECONOMY

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NEW LITERATURE—Continued

GRINDING . . Abrasive discs and cylinders for surface-grinding machines; list of recommended grains and grades for materials from Alnico to tile. Bulletin ESA-54, 4 pages. Simonds Abrasive Co., Fraley & Tacony Sts., Philadelphia 37, Pa. IEN-0167

HANDLING . . Wood pallets in a range of designs; notes on recommended uses, construction points, sizes, and suggestions on pallet selection. Pallet Catalog 156, 16 pages. Acme Pallet Co., 15 Park Row, Room 2317, New York 38, N. Y. IEN-0168

HANDLING . . Metal baskets, dippers, strainers, containers to handle parts and products in manufacturing, finishing, processing; illustrated data summaries including dimensions. "Metal Baskets," 6 pages. Hoffman Co., 41-45 Penn St., York, Pa. IEN-0169

HANDLING . . Boxes, skid boxes, box-type hand trucks in wire-laced wood-slat design; illustrated construction points, examples of use in handling a variety of materials. "A Quick Move," 4 pages. G. B. Lewis Co., 4 Montgomery St., Watertown, Wis. IEN-0170

HEAT EXCHANGING . . Cascade coolers for corrosive liquids, using Pyrex glass tubes and raw or sea water as the cooling medium construction, selection nomographs. Bulletin PE-8, 12 pages. Corning Glass Works, 1969 Crystal Ave., Corning, N. Y. IEN-0171

HEAT EXCHANGING . . Scraped-surface units to serve as process chillers, crystallizers and heaters; sectional drawings, operation, typical assemblies, uses. Bulletin PE-1, 12 pages. Henry Vogt Machine Co., 1629 W. Ormsby St., Louisville 10, Ky. IEN-0172

HEAT TREATING . . General-purpose gas-fired furnace for heat treating service, 1,000 to 1,800 deg. F.; chart of dimensions and hearth areas, selection graph. Bulletin 120-B, 6 pages. Mahr Mfg Co., 1786 N. Second St., Minneapolis 11, Minn. IEN-0173

HEATING . . "Fin-Vector" finned-tube space-heating radiator; element details, dimensions including covers, tables of basic capacities, ordering instructions. Bulletin 1251, 8 pages. C. A. Dunham Co., 402 W. Madison St., Chicago 6, Ill. IEN-0174

HEATING . . High-frequency induction heating unit for brazing, soldering, melting, annealing, hardening to 2 kw.; specifications, other models. "Model 2KW," 4 pages. Lepel High Frequency Laboratories, Inc., 37th Ave. & 55th St., Woodside 77, N. Y. IEN-0175

HEATING . . Gas-fired heating and heat-treating equipment for process use, also air dehydrators, separators; sectional views, application notes. Bulletin S-7.1, "Heat Processing," 12 pages. Selas Corp., 551 E. Erie Ave., Philadelphia 34, Pa. IEN-0176

HEATING . . Finned-tube coils for steam and hot water; construction, selection instructions, rating tables, dimensions, recommended piping diagrams, examples of use. Bulletin DS-385, 68 pages. Trane Co., 2017 Cameron Ave., La Crosse, Wis. IEN-0177

HEATING . . Blower, convection and duct-type electric heaters; condensed data and application suggestions, also controls, radiant heaters, heating cable. Folder F-1530, 4 pages. Edwin L. Wiegand Co., 7505 Thomas Blvd., Pittsburgh 8, Pa. IEN-0178

HINGES . . In continuous, butt, spring, stop, loose-joint standard types with size tables; also special units in these and other designs, latches, stampings. Catalog 152, 24 pages. Braun Mfg. Co., 1637-53 N. Kostner Ave., Chicago 39, Ill. IEN-0179

INDEXING . . Rotary feed table actuated by a pneumatic cylinder; operating sequence, data on 10 and 22-in. models, wiring diagram, examples of use in feeding work pieces. Bulletin T-85, 16 pages. Bellows Co., 230 W. Market St., Akron 9, Ohio IEN-0180

INSULATING . . Steatite ceramic beads, bushings, standoff and strain insulators, also appliance parts; dimensional drawings, properties on 500 parts. Catalog 951, 52 pages. Stupakoff Ceramic & Mfg. Co., 44 Cooperstown Rd., Latrobe, Pa. IEN-0181

INSULATING . . Steatite ceramic stand-off insulators for electronic and high-frequency equipment; dimensional drawings and tables, test data on two materials. Catalog 151, 4 pages. Thor Ceramics Inc., 223-27 Belleville Ave., Bloomfield, N. J. IEN-0182

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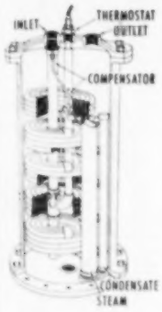
BREVITY—Identify by IEN - 1859 if you write the maker

A PAID NEWS ADVERTISEMENT BY AERCO CORPORATION

A REVOLUTIONARY IDEA . . . for Heat Exchanger Control



Where to put the thermostatic bulb on a storage type heater, or for controlling any heat exchanging operation, hot or cold, has always been a problem. The Aerco Heat Exchanger Control solves the problem by locating the bulb inside a tube which draws samples from the top and bottom of the tank in proportion to the rate of flow, and then mixes them inside the compensator tube. It governs and acts instantly when any water is taken off. Even when oversized the Aerco shuts off before there can be any over-ride. It controls to within two degrees on intermittent loads, and within half a degree on continuous loads up to 80% of the load.

For large installations, the Aerco may be used as a combination booster and temperature control in series with storage tanks, or shell and tube exchangers.

Technical Bulletin No. 22 describes the operating features with tables for size determination, water capacities and steam requirements. Standard Aerco units are made for capacities from 5 g.p.m. to 300 g.p.m. with temperature rises of from 5 to 150° F. 1E

AERCO CORPORATION
214 Lafayette Place • Englewood, N. J.

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THIS IS IT

★ the NEW H-50 Rheostat

★ another Hardwick, Hindle ten-strike!

Instructions to our engineering department were: design a rheostat, completely new construction if necessary, that embodies all features essential to producing a rheostat that 'can take it' in the wide industrial field.

They did—and this is it.

It is of course bonded with our new blue-gray high-temperature enamel coating—and its new trouble free construction assures far greater service and efficiency.

And please note; this new H-50 is designed to comply with current standards of:

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(b) Underwriters' Laboratories.
(c) R.T.M.A.
(d) N.E.M.A.

Send for our new H-50 bulletin giving full information and details.

HARDWICK, HINDLE, INC.
Rheostats and Resistors
Subsidiary of
THE NATIONAL LOCK WASHER COMPANY
Established 1886 NEWARK 5, N. J., U.S.A.

the mark of quality
for more than half a century

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Electronic Temperature Control

...with Alnor Accuracy

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Easily and quickly installed, this instrument is ready to give you accurate controller service on new or existing heating equipment temperature—you merely set the pointer at the desired temperature and forget your indicating and controlling problems. But find out for yourself how Alnor accuracy and dependability can serve you in controller service; write today for complete details on the Alnor Temperature Controller . . . Alnor accuracy at a price you can afford. Illinois Testing Laboratories, Inc., Rm. 517, 420 N. La Salle Street, Chicago 10, Illinois.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

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1001 GAUGES to choose from

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Sales affiliate of
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MARSH

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NOW! SKYLIGHT WITH RESOLITE

TRANSLUCENT STRUCTURAL PANELS

RESOLITE makes large skylight and wallight areas economical for corrugated industrial buildings because no extra framing is required either for support or weatherproofing — it nests with any standard corrugated sheet. RESOLITE permits substantial savings in plant lighting by its efficient diffusion of daylight through the building interior. Structurally rugged, chemically immune to weather extremes and most industrial fumes, RESOLITE gives long life without protective treatment. RESOLITE is molded in six colors to all standard sheet sizes and corrugations. Made of polyester resins reinforced with Fiberglas mat, the material is shatter-proof and can be worked with ordinary tools. **Excellent for Interior Partitioning** in office or home, for shower and toilet stalls, and decorative architectural uses.

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Motor unit removes to become portable blower for cleaning electric motors and machinery.

Motor unit plus Pac-Vac attachments makes your Tornado into a shoulder-type vacuum for stairs and overhead work.

No, we don't mean that someone has been sprinkling your floors with cash. It's nothing as obvious as that—we mean that you may be wasting many dollars on your floors and other cleaning operations if you are not using *Tornado Cleaning*.

Tornado vacuum cleaners have been helping industrial plants and commercial establishments to do their cleaning faster, more thorough and at a substantial savings.

In addition to conventional vacuuming of all floors, Tornado picks up metal chips, water, oil and scrubbing solutions. Versatile attachments clean walls, acoustical ceilings, overhead fixtures and shop equipment. The motor unit is also removable for a shoulder-type vacuum or a portable high velocity blower.

Actually—Tornado is 4 valuable cleaning tools in one powerful machine that means savings—plus profits to you. It's all described in our bulletin 600, yours for the asking.

BREUER ELECTRIC MFG. CO.
5108 N. RAVENSWOOD AVE., CHICAGO 40, ILLINOIS

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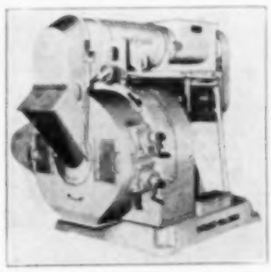
EXTRUDING . . Revolving die machine converts animal feed into pellets

Source: SPROUT WALDRON & CO.
541 Waldron St., Muncy, Pa.



Excellent detail in Manual 94

Pellet-Ace Model 501-B is a new design in the company's line of extruding equipment. It is driven by a 75-hp. motor for a **die speed of 298 rpm.** and rates 300 lb. of pellets per hp. hour. The design features accessibility for inspection, die change and maintenance. A safety shear pin releases the complete extruding assembly so it rotates free without working should any foreign matter get by the permanent-magnet separator in the feed section.

Feed enters at a hopper at the top of the assembly from where it is forwarded by a stainless-steel screw through a conditioning section fitted with agitating paddles on an extension of the screw-conveyor shaft. Steam is supplied to this section at a recommended boiler capacity of 40 hp. Conditioned feed moves over the magnetic separator and drops to distributor arms that introduce it into the revolving die in uniform distribution. Two rollers mounted on the normally stationary central shaft force it through radial die openings. As it issues from the outside rims, knives cut it to produce the pellets which drop through an opening at the bottom of the die chamber. The feed section is driven by a 2-hp. variable speed motor and transmission with a speed range of 6 to 1.

▼ BREVITY—Identify by IEN - 1867 if you write the maker ▼

COUNTING . . Wheel type unit rolls to count speed and distance

Source: TRACKTEST EQUIPMENT CO.
Box 499-A, Franklin 1, Mich.

It rolls to count

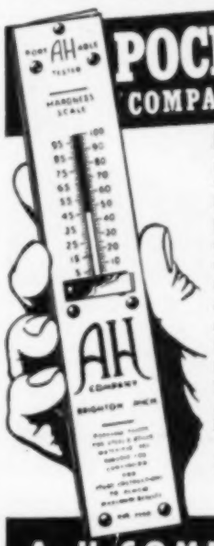
Model 5101 is a new "fifth wheel" speedometer consisting of a 26-in. rubber-tired wheel mounted in a frame with a clamp for attachment at the rear of a motor vehicle. The wheel connects to a Weston Model-750 Type J-11 aircraft tachometer magneto for electrical connection to a Weston Model-901 dc. voltmeter. This meter is calibrated as a double-range speed indicator for ranges maximum at 50 and 100 miles per hour.

The assembly also includes a standard SAE heavy-duty tachometer drive that is interchangeable with the generator drive to read speeds in terms of rpm. or other factor. Distance can be measured by attaching a standard Stewart-Warner right-angle drive adaptor to the side of the wheel opposite the tachometer generator so a standard counter can be cable driven from this point if required.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 54

▼ BREVITY—Identify by IEN - 1868 if you write the maker ▼

POCKET-SIZE COMPARATOR TESTER



A compact, low cost precision tester which will fill a dozen needs in your plant.

Easily carried anywhere and used on-the-job by anyone.

Gives accurate surface elasticity readings, easily converted to Rockwell or Brinnell.

Hundreds in daily use in all types of industry. A trial tester will prove its value.

PRICE $25.50 Plus Tax Including case

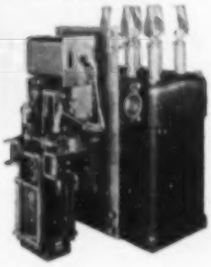
F. O. B. BRIGHTON, MICH.

A-H COMPANY, INC.
225 E. Grand River, Brighton, Mich.

▼ BREVITY—Identify by IEN - 1869 if you write the maker ▼

FULL ELECTRICAL PROTECTION that Lasts for Years

ALLIS-CHALMERS INDOOR OIL CIRCUIT BREAKERS



INDUSTRIAL ELECTRICAL SERVICE
2300 to 13,800 volts — Up to 500,000 kva interrupting capacity

Type D-20, 7.2 kv, 600 amp, 50,000 kva interrupting capacity oil circuit breaker with solenoid operator and automatic trip.

FOR DEPENDABLE PROTECTION of your electrical equipment, investigate the Allis-Chalmers breaker type that will meet your requirements.

Low maintenance, long life and reliable performance in these modern breakers are the result of over 50 years circuit breaker experience (air or oil). Allis-Chalmers circuit breakers for industry and electric power utilities range from 2500 to 230,000 volts, 15,000 to 10,000,000 kva interrupting capacity.

For complete information on the breaker for your requirements, contact your nearby A-C sales office or write Allis-Chalmers, Milwaukee 1, Wisconsin, specifying voltage and interrupting capacity. A-3304

ALLIS-CHALMERS

▼ BREVITY—Identify by IEN - 1870 if you write the maker ▼

CAMPBELL NIBBLING MACHINES

Model 2524

Cut odd shapes from sheet stock faster—

SPEED UP PRODUCTION

• For ferrous or non-ferrous metals. Work feeds in any direction. Many models, all re-engineered...ready for the emergency.

Write today for literature . . .

ACCO *Tell us your problem— we'll make recommendations*

CAMPBELL MACHINE DIVISION
AMERICAN CHAIN & CABLE
941 Connecticut Ave., Bridgeport, Conn.

▼ BREVITY—Identify by IEN - 1871 if you write the maker ▼

Bendix-Friez THERMISTORS
NEGATIVE TEMPERATURE COEFFICIENT CERAMIC RESISTORS

• These temperature responsive resistors are useful as temperature measuring elements and as liquid level sensors; they are especially well suited to compensation where the circuit constants must be maintained irrespective of temperature changes. Since they are a fired ceramic, they are stable under practically all conditions and respond only to temperature changes.

Typical application in capsule form for temperature sensing of hydraulic oil.

Many other values can be obtained from standard diameter material. Because the thermistors are made in our own plant, under extremely careful control, special compositions, shapes, and resistance values, hermetically sealed or otherwise protected, can be made in any quantities to suit your individual requirements.

We invite your Inquiries Write Dept. H

BENDIX-FRIEZ STANDARD ROD TYPES

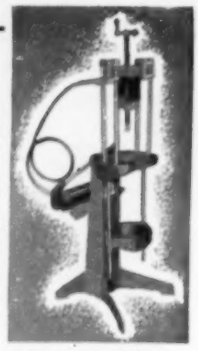
Size (inches)	@ +30°C.	@ 0°C.	@ −30°C.
.140 x ⅝	45 ohms	88 ohms	193 ohms
.040 x 1.5	14,000 ohms	29,946 ohms	74,676 ohms
.018 x 1.5	40,000 ohms	94,040 ohms	262,400 ohms

FRIEZ INSTRUMENT DIVISION of Bendix
1334 Taylor Avenue • Baltimore 4, Maryland
Export Sales: Bendix International Division, 205 East 42nd St., N.Y. 17, N.Y.

▼ BREVITY—identify by IEN - 1872 if you write the maker ▲▼

new OTC POWER-TWIN

PORTABLE PEDESTAL PRESS



An amazingly efficient portable pedestal press, which combines with the Power-Twin Hydraulic Ram to perform tough jobs easily and quickly.

STRONG. Handles 95% of all pulling or installing jobs. Especially designed for use with OTC 1-7½ ton Hydraulic Puller.

AMAZINGLY PRACTICAL for all production, assembly line and maintenance operations.

PORTABLE OR PERMANENT. Easily moved from job to job or located near permanent equipment.

COMPACT. Base is only 20 x 21 inches.

VERSATILE. Provides almost unlimited vertical adjustment for pulling or installing wheels, pulleys, bushings, collars, couplings, gears, shafts and bearings.

POWER-TWIN HYDRAULIC BENCH PRESS

Bench frame available for use with OTC Power-Twin Center-Hole Hydraulic Ram. Provides compact, inexpensive hydraulic press for mounting on bench for use in shop—or service truck for use on the job.

See your jobber for complete information or write us.

OWATONNA TOOL COMPANY
371 CEDAR STREET • OWATONNA, MINNESOTA

▼ BREVITY—identify by IEN - 1873 if you write the maker ▲▼

- *FOR SIGNS*
- *OBSTRUCTION MARKERS*
- *PLANT SAFETY LIGHTING*

WESTON (automatic, plug-in type)

Illumination Control

The simplest, most efficient and economical plug-in control unit for automatically turning lights "on" and "off" at predetermined daylight levels. Employs only five rugged components—*no troublesome vacuum tubes, phototubes, resistors or capacitors* used. Draws current only during operating cycle (about one minute per day). One unit controls either one or two circuits of 3,000 watts each, at 120 volts a-c. Mounted in standard weatherproof watt-hour meter case. Return coupon for full details.

WESTON *Instruments*

WESTON Electrical Instrument Corporation
603 Frelinghuysen Avenue
Newark 5, New Jersey

Please send information on the new plug-in Illumination Control.

NAME

COMPANY

ADDRESS

NEW LITERATURE—Continued

JACKS . . "Simplex" hydraulic jacks in hand-operated Re-Mo-Trol design; data on units to 100 ton, attachments, also Simplex-Jenny hydraulic pullers, standard jacks. Bulletin 51-R, 8 pages. Templeton, Kenly & Co., 1012 S. Central Ave., Chicago 44, Ill. **IEN-0183**

LATHES . Model 10-U automatic turret lathe by Potter & Johnston; diagrams to show 49-in. swing over ways and 27-in. swing over cross slide, specifications. Bulletin 146, 4 pages. Pratt & Whitney, 49 Charter Oak Blvd., West Hartford 1, Conn. **IEN-0184**

LUBRICATING . . Drawing compounds for general-purpose, nonferrous, magnesium, aluminum, steel application; data summaries and properties chart. "Drawing Compounds," 4 pages. E. F. Houghton & Co., 301-5 W. Lehigh Ave., Philadelphia 33, Pa. **IEN-0185**

MARKING . . "Labelon" self-adhesive tape that can be written upon to form a label; sample, picture examples of use in stockrooms, laboratories, repair work, wiring. Pocket folder 6, 6 pages. Labelon Tape Co., P. O. Box 1212-A, Rochester 3, N. Y. **IEN-0186**

METAL PARTS . . Deep-drawn shapes and shells for product use; dimensional drawings of six examples to show scope of sizes, notes on production service. "Deep Drawn Shapes," 2 pages. Pressed Steel Tank Co., 1443-47 S. 66th St., Milwaukee 14, Wis. **IEN-0187**

METALS . . Ferrous and non-ferrous strip to .00025 in.; silver brazing alloys, precision-rolled metals, clad metals, braze-clad metals, contacts; review of products. Bulletin 9-B, 4 pages. American Silver Co., 36-09 Prince St., Flushing 54, N. Y. **IEN-0188**

METERS . . Portable and process type to measure and control pH, also spectrophotometers, radioactivity instruments; available models and accessories. Bulletin 300, 16 pages. Beckman Instruments Inc., 800 Mission St., South Pasadena 5, Calif. **IEN-0189**

METERS . . Volumetric-displacement units for water, oil, other liquids; how-it-works description, capacities and list prices on standard and predetermining types, installation. Bulletin 31, 20 pages. Buffalo Meter Co., 2929 Main St., Buffalo 14, N. Y. **IEN-0190**

MOTORS . . Electric motors from 1/125 to 400 hp. to use in power-driven products from fans to machine tools; notes on range of models available. Bulletin MU-94 No. 16, 4 pages. Wagner Electric Corp., 6488 Plymouth Ave., St. Louis 14, Mo. **IEN-0191**

PACKAGING . . "Vacuflow" machine for dustless filling of powders into containers; sectional drawing of filling head, details on available machines. Bulletin 117, 8 pages. Pneumatic Scale Corp., 71-73 Newport Ave., Quincy 71, Mass. **IEN-0192**

PAINTING . . "Speedy Sprayer" diaphragm-type compressor and gun assemblies for paint spraying; descriptions, specifications, also hose, containers, fittings. Catalog 51, 8 pages. W. R. Brown Corp., 2703 N. Normandy Ave., Chicago 35, Ill. **IEN-0193**

PLASTICS . . "Textolite" laminated plastic in sheet, tube, rod; tabular data on 36 grades including mechanical, physical, thermal, electrical properties, tolerances. Bulletin CDL-38, 8 pages. General Electric Co., 101 Plastics Ave., Pittsfield, Mass. **IEN-0194**

PRESS ATTACHMENTS . . For straightening shafts, tubes, bars, assemblies; illustrated bases, blocks, carriages for company's "Flexible Power" presses. Bulletin 396, 4 pages. General Mfg. Co., 6428-32 Farnsworth St., Detroit 11, Mich. **IEN-0195**

PRESS TOOLS . . Motor-driven feeder to handle work pieces into and out of a press; operating sequence pictures, examples of parts handled, performance figures. "Loadac Feeder," 4 pages. Magnaflux Corp., 5914 Northwest Highway, Chicago 31, Ill. **IEN-0196**

PRESSES . . Hand hydraulic press for laboratory use, accessories for laminating, testing, extracting; also large hydraulic filter presses; illustrated specifications. Folder CC-51, 4 pages. Fred S. Carver Inc., 3 Chatham Road, Summit, N. J. **IEN-0197**

PRESSES . . "Multipress" hydraulic press in 1 to 50-ton sizes; description of its use in defense production for hydrostatic testing and automatic shell banding. Bulletin 141, 8 pages. Denison Engineering Co., 158-62 Dublin Road, Columbus 16, Ohio **IEN-0198**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

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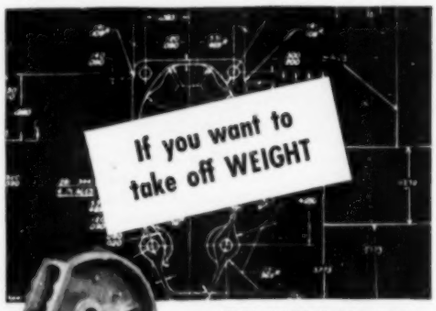

a WELL-CAST lightweight magnesium or aluminum casting is your ready answer

40 Years' experience producing quality lightweight castings for the aircraft, textile, pneumatic tool, automotive, domestic appliance, and other diversified industries everywhere.

Well-Made Wood and Metal Patterns
Ampco Bronze Castings

THE WELLMAN BRONZE & ALUMINUM CO.
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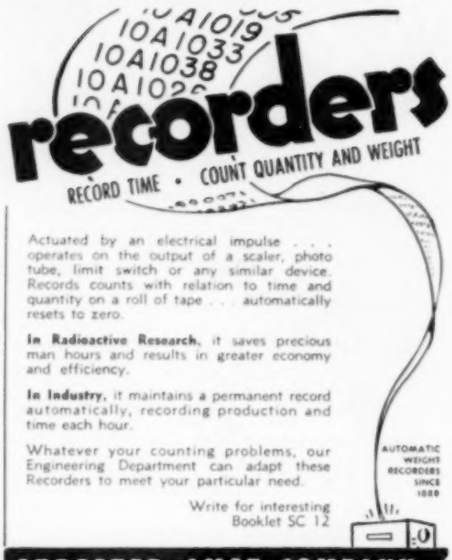

recorders

RECORD TIME • COUNT QUANTITY AND WEIGHT

Actuated by an electrical impulse . . . operates on the output of a scaler, photo tube, limit switch or any similar device. Records counts with relation to time and quantity on a roll of tape . . . automatically resets to zero.

In Radioactive Research, it saves precious man hours and results in greater economy and efficiency.

In Industry, it maintains a permanent record automatically, recording production and time each hour.

Whatever your counting problems, our Engineering Department can adapt these Recorders to meet your particular need.

Write for interesting Booklet SC 12

AUTOMATIC WEIGHT RECORDERS SINCE 1888

STREETER-AMET COMPANY
4101 N. RAVENSWOOD AVENUE • CHICAGO 13, ILLINOIS

SCALES • WEIGHT RECORDERS • HI-SPEED COUNTERS

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How to DOUBLE your abrasive belt productivity

Glazing . . . the enemy of prolonged and productive belt life, is virtually eliminated when you use "61" contact wheels.

"61" WHEEL USERS ARE GETTING THESE DRAMATIC PRODUCTION RESULTS

LONG-LIFE CUTTING ACTION

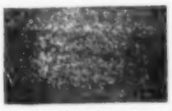
Only the contact wheel is different in these two photos—same type of belt, same work, same surface speed, same camera exposure—but what a difference in cutting action!

Spark pattern at 24-minute mark using belt on standard serrated wheel.

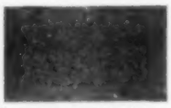
Spark pattern at 80-minute mark using belt on new "61" wheel.

NON-GLAZING THAT'S AMAZING

Unretouched photos tell the story. Same belt—same work—different wheels. Imagine—the belt section pictured at right below has already run more than *three times as long* as the section at left—still has plenty of abrasive life left, still is unglazed!



Glazing on belt after 24 minutes using standard serrated wheel.



Non-glazing on belt after 80 minutes using new "61" wheel.

Get the whole story now—including cost-cutting case histories on work like yours—from your CARBORUNDUM man or distributor salesman. Or write Dept. IEN 82-62.

Only CARBORUNDUM TRADE MARK
offers ALL abrasive products
. . . to give you the proper ONE

"Carborundum" is a registered trademark of The Carborundum Company, Niagara Falls, New York

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PRETTY SPRY FOR AN OLD GUY

M.E. 1251-2

20 years makes any electrical connector a venerable old-timer and the JOY plug pictured above has faithfully served its owner (*name on request*) since '31. *Your portable electric connectors will also last longer and require less maintenance attention if they're JOY built*

TODAY'S DESIGNS

Thousands of styles and shapes ranging from "Cartridge-size" to mammoth round units for heavy industrial use have been developed. NO question about it, the JOY electrical connector line deserves your earnest consideration. Ask for your free copy of bulletin MC108, now.

JOY MANUFACTURING COMPANY
HENRY W. OLIVER BUILDING, PITTSBURGH 22, PENNSYLVANIA
IN CANADA: JOY MANUFACTURING COMPANY (CANADA) LTD., GALT, ONTARIO

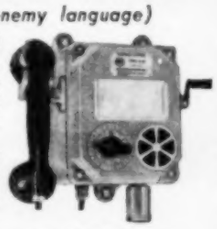
▼ BREVITY—identify by IEN - 1880 if you write the maker ▼

U.S.I. SOUND POWERED
assures dependable communication

"BOMBS AWAY"
(in enemy language)

Could mean no communication in your plant . . . Any communication system depending upon outside power supply is unusually vulnerable.

Investigate the permanent, or emergency systems offered through U. S. I. sound powered telephones.



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UNITED STATES INSTRUMENT CORPORATION
SUMMIT • • • NEW JERSEY

▼ BREVITY—identify by IEN - 1881 if you write the maker ▼

▼ BREVITY—identify by IEN - 1882 if you write the maker ▼

GEAR CUTTING . . Hobbing machine, work to 6 in. diameter, 5 in. length

Source: HAMILTON TOOL CO.
905 Hanover St., Hamilton, Ohio

Illustrated details in Bulletin H1-49

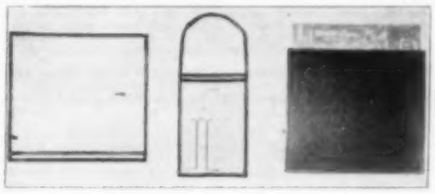
A new vernier has been added to the company's No. 1 gear-hobbing machine so the turntable on which the work mounts can be set to minutes of arc. A new thumb wheel provides means to position the hob relative to the work. A Ruthman pump is now employed for coolant circulation. These three refinements are designed to assist in work set up and to extend the service life of the hob.

The machine is driven by a 1-hp. motor operating through a speed selector for 12 speeds between 100 and 1,250 rpm. Feeds range from 0.004 to 0.032 inch. Maximum diametral work pitch is 12. Maximum hob size is 1¼ in. in diameter and width. Maximum distance between the spindle noses is 8½ in. and minimum is 4 inches. The work-spindle collet capacity of the new machine is ¾ inch.

▼ BREVITY—identify by IEN - 1883 if you write the maker ▼

PROTECTING . . Transparent holder for prints, orders, records, reports

Source: CLEAR-VIEW PRODUCTS CO.
6116 Broadway, Chicago 40, Ill.



Dirty hands will not deface

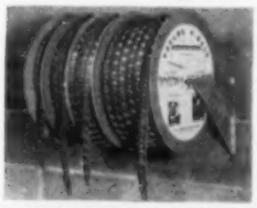
Transparent plastic can be specified on one or both faces of a new line of protecting holders to keep prints, orders, records, reports, instruction sheets clean and legible in a plant. Each holder is rectangular in outline and can be supplied plain or with a strap to hang it up. The plastic protects against contact with dirt, greases, oil, moisture. Sizes and shapes also are subject to specification.

Stock sizes ranging from 5½ by 7½ in. to 10 by 13½ in. with transparent front and back list at 16½ to 34 cents each in lots of 50 to 100. A solid back adds 3 cents. Metal eyelets add 1 cent each. The hanging strap adds 2 cents.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—identify by IEN - 1884 if you write the maker ▼

VEELOS The Adjustable V-Belt Pays for Itself



In Inventory

Veelos reduces required v-belt stocks. Just 4 reels of Veelos cover every v-belt need (up to 316 sizes) in the O, A, B and C widths. Stock only one reel for each width of belt you use—and any *length is readily available.*

In Maintenance

Veelos can be installed quickly and easily without dismantling outboard bearings or moving motor. Individual belts can be adjusted by simply removing or adding links.

In Operating Efficiency

Uniform tension can be maintained on all Veelos belts to provide vibrationless, full power delivery. Simple adjustment of each belt means that *matched* sets *stay matched.*

Write for your copy of the Veelos Data Book. It gives complete facts.

MANHEIM MANUFACTURING & BELTING CO.
851 Manheim St., Manheim, Pa.

VEELOS V-BELT

Adjustable to any length • Adaptable to any drive

▼ BREVITY—identify by IEN - 1885 if you write the maker ▼

NOW READY . . . new line of HEAVY-DUTY Milwaukee "SUPER" HOLE-SHOOTERS

NEW . . .

- Die-cast aluminum housings — lighter wt. — perfect balance.
- Helical-cut steel gear trains — more power — higher torque.

Ball and roller bearings throughout for longer service-life

- LOWER PRICES

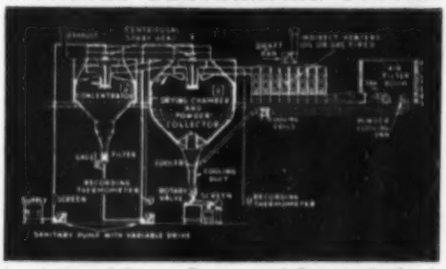
½"—$59.50 ⅝"—$69.50
¾"—$79.50 ⅞"—$89.50

Ruggedly built for heavy-duty production and maintenance, "SUPER" HOLE-SHOOTERS will give you *higher* load-speeds, *cooler* performance and *more hours* of service-free drilling than you have believed possible . . . and at *lower* operating cost. Write for FOLDER D-1.

MILWAUKEE ELECTRIC TOOL CORP.
5360 West State Street, Milwaukee 8, Wisconsin

▼ BREVITY—identify by IEN - 1886 if you write the maker ▼

IMPROVED DEHYDRATING SYSTEM



Centrifugal Spray Dryer and Concentrator*

For dehydrating
Chemicals
Pharmaceuticals
Blood or Blood Plasma
Milk Products
Eggs
Vegetables
Coffee and many other products

A complete spray drying plant employing a unique centrifugal type spray head. No high pressure pump is used, and due to the design of the spray head, emulsions as well as solutions can be dried. No clogging or wearing of nozzles is caused by the suspended solids. The powder is collected and cooled in the drying chamber.

CONTRACT DRYING

We invite inquiries for Contract Drying in our fully equipped, Stainless Steel Plant in Chicago. Shipments can be made direct to our Railroad Switch Track or Truck Docks.

WRITE FOR FREE BOOKLET

Attractive bulletin illustrates and describes spray drying plants; explains operation in detail. Shows plan views; application photos. Send for your FREE copy today.

DRYING & CONCENTRATING CO., 332 S. Michigan Ave., Chicago, Ill.

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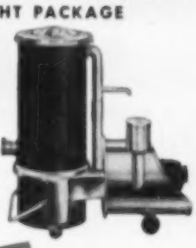
HEAVY DUTY POWER IN A LIGHTWEIGHT PACKAGE

WITH SPENCER PORTABLE VACUUM CLEANERS



For heavy duty general cleaning, offices, hallways, laboratories, conference rooms, etc. . . . wet pick-up . . . dry mop cleaning . . . 3 models (½, ¾ and 1 H. P.), sturdily built for long, hard service. (Larger machines available for plant use.)

WRITE DEPT. IE FOR DETAILS

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT
SPENCER HARTFORD

10P92

BREVITY—Identify by IEN - 1888 if you write the maker

CAL-WIC WIRE CLOTH

In all Meshes, Weaves and Weights

Filtering, screening or grading—whatever your special job demands may be—Cal-Wic Wire Cloth is available in the right mesh, weave or weight to meet your requirements. Resistance to corrosion, abrasion and temperature extremes assured through the use of appropriate metals and alloys.

The long-wearing qualities of Cal-Wic Wire Cloth take on added importance during times like the present.

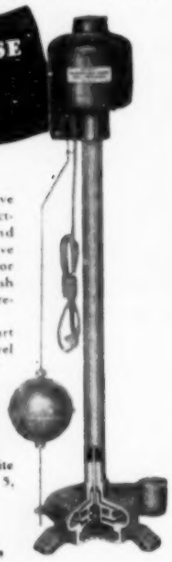
For additional information write or phone our nearest sales office.

EAST: Wickwire Spencer Steel Division, Clinton, Mass.
WEST: The Colorado Fuel & Iron Corporation, Denver, Colorado
PACIFIC COAST: The California Wire Cloth Corporation, Oakland, Calif.

CAL-WIC INDUSTRIAL SCREENS
THE COLORADO FUEL AND IRON CORPORATION
CF&I

BREVITY—Identify by IEN - 1889 if you write the maker

FAIRBANKS-MORSE INDUSTRIAL SUMP PUMPS



Handy, dependable. Save thousands of dollars by protecting machinery, merchandise and buildings from damage by excessive seepage and flash floods. Ideal for use in boiler and elevator pits, ash dumps, machinery base pits, storerooms, and many other places.

Fairbanks-Morse sump pumps start when water reaches pumping level ... shut off when danger is passed. Can be left unattended. Made for 2-foot sump pits. Extension columns available when settings require them. For complete details of sizes, construction features, pumping capacities and prices, write Fairbanks, Morse & Co., Chicago 5, Illinois.

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NEW LITERATURE—Continued

PRINTING . . "Spee-Dee" whiteprint machine for moist-diazo or ammonia-fume methods; data on outfits for sheet size to 24 by 36 in., process description. Bulletin 181, 4 pages. Peck & Harvey, 5734-48 N. Western Ave., Chicago 45, Ill. IEN-0199

PROTECTING . . Telescoping-spiral guide-pin cover for press tools; stock sizes and list prices for units with open height to 24 inches. "Elasticone Price Sheet," 2 pages. Central Safety Equipment Co., 2202 E. Huntingdon, Philadelphia 25, Pa. IEN-0200

PROTECTING . . "ChemKlos" work clothing of Dynel fabric for service where exposed to acids or caustics; fabric sample, performance data, clothing types, sizes. Bulletin CF-38, 4 pages. Mine Safety Appliances, 21 Braddock Ave., Pittsburgh 8, Pa. IEN-0201

PULLING . . Screw-type and hydraulic tools and accessories to remove gears, bearings, pulleys from Caterpillar tractors; standard units, sets, examples of use. Bulletin CT-52, 16 pages. Owatonna Tool Co., 871 Cedar St., Owatonna, Minn. IEN-0202

PULVERIZING . . "Pulverator" hammer mill for non-abrasive material such as limestone, oyster shells, talc; details on "multi-impact" operation, ratings. Bulletin 07-B-6265A, 12 pages. Allis-Chalmers Mfg. Co., 989 S. 70th St., Milwaukee 4, Wis. IEN-0203

PUMPS . . Type-SSB general-purpose centrifugal pumps, heads to 55 ft., capacity to 2,500 gpm., temperature to 250 deg. F.; construction details, dimensions. Bulletin 52-B-6351B, 6 pages. Allis-Chalmers Mfg. Co., 989 S. 70th St., Milwaukee 14, Wis. IEN-0204

PUMPS . . Type-MCF diffusion vacuum pump; sectional view to show operation, description on metal construction, data on six models, characteristic curves. "Type MCF," 8 pages. DPI, Div., Eastman Kodak Co., 341-45 State St., Rochester 4, N. Y. IEN-0205

PUMPS . . Vacuum pump in rotating-plunger design, single-stage and compound with pressure to 10 and .2 microns, sizes to 1,600 cfm.; specification table. Bulletin V-51-B, 4 pages. Kinney Mfg. Co., 3564 Washington St., Boston 30, Mass. IEN-0206

PUMPS . . "Moyno" helical gear pump for liquids, pastes, acids, slurries; detail description on operation, size and capacity tables, dimensions. Bulletin 30-B, 8 pages. Robbins & Myers Inc., 1343-47 Lagonda Ave., Springfield 99, Ohio IEN-0207

PUMPS . . "Freflo" vertical centrifugal sump pump with non-clog impeller; captioned sectional view to show construction, capacity chart. Bulletin W-317-B12, 4 pages. Worthington Pump & Machinery Corp., 423 Worthington Ave., Harrison, N. J. IEN-0208

RECORD KEEPING . . Methods and equipment for filing alphabetically, geographically, numerically, also card indexing, sorting equipment. Bulletin LB-385, 88 pages. Remington Rand Inc., 315 Fourth Ave., Room 1618, New York 10, N. Y. IEN-0209

RECTIFYING . . Mechanical rectifier for 50 to 400 volts dc. from ac. supply; operating principle, contact mechanism details on units to 10,000 amp. Bulletin 5106, 32 pages. I-T-E Circuit Breaker Co., 1890 Hamilton St., Philadelphia 30, Pa. IEN-0210

REFRACTORIES . . Hydraulic setting materials; types, properties and uses for "Firecrete" castable and "Blanecrete" gun and trowel-type materials. Bulletin RC-28A, 12 pages. Johns-Manville Sales Corp., 22 E. 40th, Room 1201, New York 16, N. Y. IEN-0211

REFRACTORIES . . Informal description on the company's line of alumina, silicon-carbide, fused magnesia, fused-zirconia refractories, notes on forms and uses. Booklet 216, 24 pages. Norton Co., 36 New Bond St., Worcester 6, Mass. IEN-0212

REFRIGERATING . . "Sub-Zero" machines for metal treating; details on three models, notes on steel stabilization by chilling, shrink calculations. Folder 101, 8 pages. Deepfreeze Distributing Corp., 3926-30 Reading Rd., Cincinnati 29, Ohio IEN-0213

REFRIGERATING . . "Aeropass" refrigerant precooler; review of features and functions together with a picture review of other equipment in a line. Pocket Bulletin 116, 6 pages. Niagara Blower Co., 3117 Chrysler Bldg., New York 17, N. Y. IEN-0214

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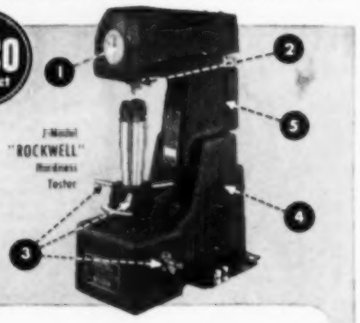

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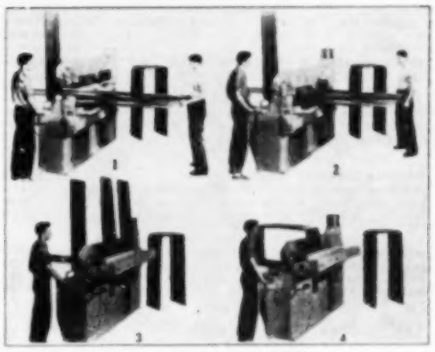
BENDING . . Forming machine to make one-piece sheet metal cabinet

Source: CYRIL BATH CO.
6935 Machinery Ave., Cleveland 3, Ohio



Forms corners, no wrinkles

. **Three sizes** with die space at 24, 36 or 48 in. are now available in the company's Model-F open-throat, single-wing tangent bending machine, previously described IEN-12201-50. The machine can be supplied for compressed air or hydraulic operation and with controls for manual actuation of the ram and wing movements or for complete automatic cycling.

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PAINTING . . Lambswool roll holds paint, mounts on extension handle

Source: AMERICAN PRODUCTS CO.
3306-10 Edson Ave., New York 66, N. Y.

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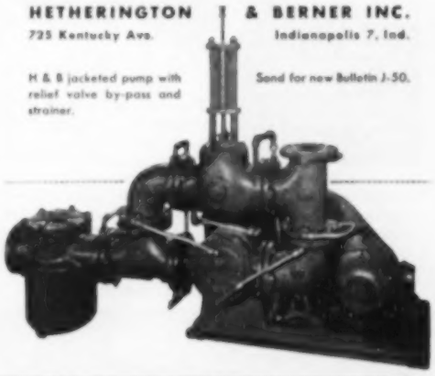

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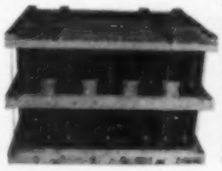

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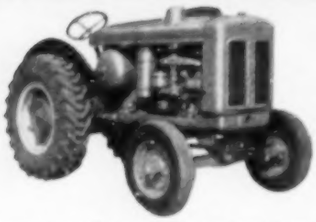

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NEW LITERATURE—Continued

RELAYS . . "Amrecon" general-purpose, telephone-type, hermetically-sealed units; description on coil and contacts, operating data, dimensional drawings. Catalog R-10, 12 pages. American Relay & Controls Inc., 4939 W. Flournoy, Chicago 44, Ill. IEN-0215

RIVETING . . Machine to set two rivets at a time on either of two selected fixed centers; specifications, application example. Broadside, "214 Pneumatic Riveter," 8 pages. Chicago Rivet & Machine Co., 9602 W. Jackson Blvd., Bellwood, Ill. IEN-0216

SEALING . . Piston rings for engines, compressors, hydraulic equipment in sizes to 32 in. diameter; standard types, sectional views, sealing rings, weights. "Piston Rings," 20 pages. Safety Seal Piston Ring Co., Box 106-A, Fort Worth 1, Texas. IEN-0217

SEPARATING . . "Dorr Clone" wet-cyclone separator for slurries, flocculent pulps; how-it-works description with a cut-away view, adjustment details, operating data. Bulletin 2500, 16 pages. Dorr Co., 152 Barry Place, Stamford, Conn. IEN-0218

SEPARATING . . Machine to separate screw-machine parts from accompanying chips; operating description, specifications. Two data sheets, covering bench and floor models, two pages each. McKenzie Engineering Co., 152 S. Main, Newtown, Conn. IEN-0219

SIGNALING . . RCA Special-Series metal detector to inspect thin sections of non-metallic material for tramp metal particles; description, operation data on three models. Catalog E-61, 4 pages. Erica Mfg. Co., 1303 E. 12th St., Erie, Pa. IEN-0220

SIGNALING . . "Detect-A-Fire" temperature-sensing elements to signal presence of fire in a room; schematic section, operating description, models, ratings. Bulletin MC-107, 4 pages. Fenwal Inc., 216-220 Pleasant St., Ashland, Mass. IEN-0221

SPRAYING . . Bolt-on spray nozzle to use with a drilled orifice in a pipe; dimensions, capacities on units for 1 to 3-in. pipe, picture uses in spraying, washing, cleaning. Folder 2386, 4 pages. Link-Belt Co., 305-9 N. Michigan Ave., Chicago 1, Ill. IEN-0222

STEELS . . "Armco 17" Type-430 chromium stainless; application suggestions on its use as an alternate for chromium-nickel stainless steels such as 18-8. Bulletin 2851-A, 6 pages. Armco Steel Corp., 701-5 Curtis St., Middletown, Ohio IEN-0223

STEELS . . Chromium-type stainless steel, offered as a substitute for chromium-nickel grades; properties, corrosion resistance, testing, typical uses. Folder, "Micro Roid Type 430," 6 pages. Washington Steel Corp., 8-12 Woodland Ave., Washington, Pa. IEN-0224

SWITCHES . . Electric safety switches, circuit breakers, load centers, motor controls, duct, panelboards, connectors; condensed data, list prices. "Trumbullist 1951," 160 pages. Trumbull Electric Mfg. Co., 39-43 Woodford Ave., Plainville, Conn. IEN-0225

TESTING . . "Elec-Detec" portable electronic stethoscope to locate noise sources in moving machinery; description, use suggestions, specifications. "How to Cut Costs . .," 4 pages. Anco Instrument Div., 4252-56 W. Arthington, Chicago 24, Ill. IEN-0226

TESTING . . Laboratory apparatus and equipment; catalog descriptions and list prices on ovens, timers, pumps, safety cans, magnifiers, salt fog cabinet. Bulletin 525, 16 pages. Andrew Technical Service, 3803-7 N. Clark St., Chicago 13, Ill. IEN-0227

TESTING . . Electronic equipment to surge-test windings in electrical equipment; description, schematic circuit illustration, typical test oscillograms. Bulletin GEC-321, 4 pages. General Electric Co., Dept. 6X-201, Schenectady 5, N. Y. IEN-0228

THERMOMETERS . . Indicating and recording types, Series 604X, 602X; general specifications, temperature ranges, drawings of available thermometer bulb designs. Sheet 600, 4 pages. Brown Instruments Div., 4456 Wayne Ave., Philadelphia 44, Pa. IEN-0229

TRUCK ATTACHMENTS . . Upenders, side shifters, scoops, clamps, ladle pourers; picture review of 25 load-handling devices for company's power lift truck. "Attachments." 4 pages. Elwell-Parker Electric Co., 4060 St. Clair Ave., Cleveland 3, Ohio IEN-0230

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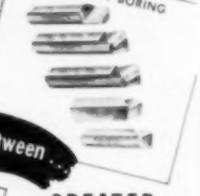

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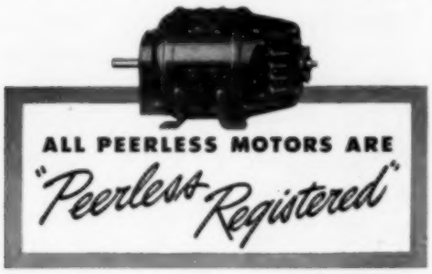

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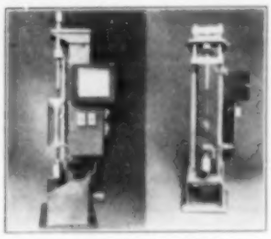
FACTORIES: Bridgeport, Conn.; Manheim, Pa.; No. Charleston, S.C.; Crawfordsville, Ind.; Passaic, N.J.; Peterborough, Ontario, Canada

RAYBESTOS-MANHATTAN, INC., Manufacturers of Packings • Asbestos Textiles • Mechanical Rubber Products • Abrasive and Diamond Wheels • Rubber Covered Equipment • Brake Linings • Brake Blocks • Clutch Facings • Fan Belts • Radiator Hose • Sintered Metal Products • Bowling Balls

▼ BREVITY—Identify by IEN - 1914 if you write the maker ▼

TESTING . . Motor driven machine for creep testing at high temperatures

Source: BALDWIN-LIMA-HAMILTON CORP.
Paschall Post Office, Philadelphia 42, Pa.



Furnace omitted at right

Two new recorders have been developed for the company's creep-testing equipment, previously described IEN-11958-48. One is for the lever-type creep machine. The other is for creep-relaxation testing. Creep specimen deformation of 0.020 in. produces full scale pen-carriage movement of 10 in. across a strip chart which is driven at ¼ iph. by a synchronous motor. The chart measures 150 ft. in length to provide a record that can extend through 7,200 hours.

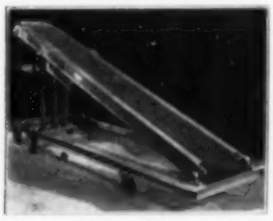
Creep is amplified and transmitted by a selsyn-motor assembly. The pen carriage is driven by a servo motor through a flexible shaft and a gear reducer. A pulley on the output shaft of the gear box drives a counterweighted cord to which the pen carriage is attached. This drive pulley is operated by a slip clutch which permits zero adjustment for the pen. The specimen under test can be maintained at any temperature to 1,800 deg. F.

Load to 50 ton per sq. in. is maintained by a motor-driven screw on a standard 0.505-in. diameter specimen positioned in an electrically-heated chamber between the two pulling heads. The lower head connects through gearing to the screw. The upper head is suspended from a spring block. Deflection is measured in this block by an electric contact and dial gage, the contact controlling the circuit for the motor. Thus it is possible to start and stop the motor to maintain constant deflection and therefore constant loading on the specimen. The motor circuit opens when it ruptures.

▼ BREVITY—Identify by IEN - 1915 if you write the maker ▼

CONVEYING . . Inclined belt unit to load and unload trucks and cars

Source: SPEEDWAYS CONVEYORS INC.
1244 Niagara St., Buffalo 13, N. Y.



Portable "loading dock"

The company announces design of a new portable adjustable-height inclined belt conveyor to take the place of a loading dock for companies that must handle loads into and out of freight cars and trucks from ground level. The assembly is on a structural base mounted on casters and equipped with floor locks.

The belt section hinges at one end, is raised and lowered by hand-operated hydraulic equipment at the other end. Belt width is standard at 14 inches. Travel speed in forward or reverse direction is at 50 ft. per minute. Other sizes and speeds can be specified.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58

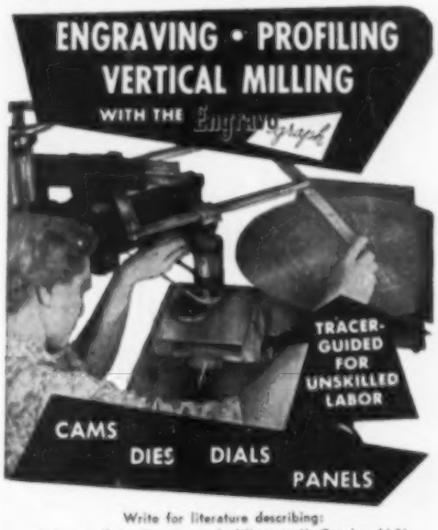
▼ BREVITY—Identify by IEN - 1916 if you write the maker ▼

DARNELL CASTERS

- made in all sizes in both swivel and stationary types
- furnished with either semi-steel or rubber tread wheels
- assures maximum floor protection and reduces wear on equipment
- plus an appreciable increase in employee efficiency

DARNELL CORP. LTD., 60 WALKER ST. NEW YORK, N.Y.
LONG BEACH, CALIFORNIA, 36 N. CLINTON, CHICAGO, ILL.

▼ BREVITY—Identify by IEN - 1917 if you write the maker ▼

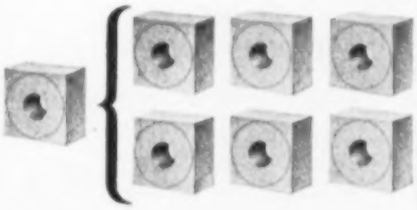


Write for literature describing:
1. Heavy Duty Engravograph (illustrated) Catalog H-23
2. Portable Engravograph—Catalog IM-23

NEW HERMES, Inc. 13-19 University Place New York 3, N. Y.
CANADA: 359 St. James St., Montreal
World's Largest Manufacturer of Portable Engraving Machines

▼ BREVITY—Identify by IEN - 1918 if you write the maker ▼

B&W KAOCAST
Last 3 to 6 times longer



Used for burner blocks, B&W Kaocast stayed on the job 3 to 6 times as long as previous refractory...and this 3000F refractory castable is still going strong.

Kaocast is versatile, too...eliminates need for inventory of special shapes. It can be molded quickly by you, when you need it, directly in place or applied by cement gun. Put B&W Kaocast to work in your plant. Get all the facts from your B&W Refractories Engineer.

THE BABCOCK & WILCOX CO.
Refractories Division
85 LIBERTY ST., NEW YORK 6, N. Y.
WORKS: AUGUSTA, GEORGIA

▼ BREVITY—Identify by IEN - 1919 if you write the maker ▼

Pressure Reducing Costs

When You Use Masoneilan Regulators

You'll find thousands of Masoneilan Regulators in hundreds of plants giving accurate pressure reducing service in various types of application.

It stops "singing" and splashing from fixtures without cutting down flow . . . reduces strain on plumbing. Body Ratings: 150 psi . . . Reduced Pressure Ranges: sizes ¼" to 1" — 10-60 psi; sizes 1¼" to 2" — 10-40; 30-60 psi; size 2" — 15-40; 30-60 psi.

Also available for air service in sizes from ¼" to 1".

Your local Mason-Neilan industrial distributor is ready to serve you from his stock

MASON-NEILAN REGULATOR COMPANY
1188 ADAMS STREET, BOSTON 24, MASS., U. S. A.

BREVITY—identify by IEN - 1920 if you write the maker

world's largest assortment of standard moulds for small mechanical rubber parts

SEE US BEFORE YOU DESIGN IT!

Save money! Check our huge assortment of standard moulds — chances are we have just the mould you need. Lowest possible prices—fast, efficient service! Get our new 44 page catalog, today.

LAVELLE Rubber Company
1811 W. Hubbard, Chicago, Ill.
WRITE, WIRE, PHONE SPECIFICATIONS — TODAY!

BREVITY—identify by IEN - 1921 if you write the maker

Wheeler lights the way ... to INCREASED DEFENSE PRODUCTION!

Step-up output with specialized Wheeler Fluorescent Fixtures! Their greater lighting efficiency pays off in higher quality . . . increased production — on every job, in every type of plant condition.

Write Wheeler Reflector Co., 275 Congress St., Boston 10, Mass.

Wheeler REFLECTORS

MADE BY SPECIALISTS IN EQUIPMENT SINCE 1921

BREVITY—identify by IEN - 1922 if you write the maker

SAVE TIME AND MATERIALS

Oil-hardened tool steel tapered pin gages accurate to +0.0001" — 0.0000" insure dependable sizing and location of holes and slots for machinists, set-up men, tool and die men, inspectors, all who need precise hole measurement.

CONCENTRIC TAPER on lower half of each gage fits holes 0.0012" smaller than standard letter, fraction, and number size drill holes. Makes insertion easier. Permits gaging of odd-size holes and slots.

ALL GAGES are 1½ inches long. Sets contain a pair of each size in a plastic case with 4-place decimal equivalents of each size plainly marked.

ALL ITEMS STOCKED FOR IMMEDIATE DELIVERY

THE Hoeberg GAGE COMPANY
21 STAPLES ST., BRIDGEPORT, CONN.

Quantity
____ Letter sets @ $45. 52 gages (A-Z)
____ Fraction Sets @ $50. 60 gages (1/64" to 1½" in 1/64" steps)
____ Number Sets @ $90. 120 gages (1 to 60)
____ Single gages @ $ 1.
____ Stand alone @ $10.

Please Rush checked items and literature to
company
address
name
title

NEW LITERATURE—Concluded

TRUCKS . . "Hi-Lift Power Ox" electric lift trucks, 2,000-lb. operator-walk design; drawings and data on tilting, non-tilting, platform, straddle types. Bulletin 5143, 12 pages. Barrett-Cravens Co., 4600 S. Western Blvd., Chicago 9, Ill. IEN-0231

TRUCKS . . Two-wheel hand truck with foot-operated clamping arms to hold boxes, baskets, crates; construction points, data on four models. "Clamp Trucks," 8 pages. Food Machinery & Chemical Corp., 3073-77 12th St., Riverside, Calif. IEN-0232

TRUCKS . . Electric lift trucks in platform, straddle and fork designs from 2,000 to 4,000 lb.; illustrated models, specifications, notes on 200-deg. turning radius for each. Bulletin 703, 4 pages. Raymond Corp., 8735 Madison St., Greene, N. Y. IEN-0233

TRUCKS . . Power lift units; application study on their use in a highway-truck transfer terminal to unload, handle and load cargo, vehicle maintenance. "Job Study 111," 4 pages. Towmotor Corp., 1224-28 E. 152nd St., Cleveland 10, Ohio IEN-0234

TUBE FITTINGS . . "Triple-Lok" flare fittings, "Ferulok" flareless fittings, pipe fittings, tool for cutting, bending, flaring; sizes, assembly instructions. Catalog 4300, 78 pages. Parker Appliance Co., 17323-27 Euclid Ave., Cleveland 2, Ohio IEN-0235

TUBES . . Flexible metal hose and expansion-type metal bellows; summary of materials, properties, application, sizes, along with a note on pressure liquid filters. "Titeflex," 4 pages. Titeflex Inc., 593 Frelinghuysen Ave., Newark 5, N. J. IEN-0236

TUBES . . Seamless metal tubing from .010 to ⅝ in. od.; description on manufacturing facilities, products made including pointer tubing, typical uses, metal-shielded wire. Catalog, 4 pages. Uniform Tubes, 152 Level Road, Collegeville 2, Pa. IEN-0237

VALVES . . "Electrimatic" solenoid valves, direct and pilot-acting types; drawings, dimensions, ratings on three models, also capacity in tons of refrigeration. Bulletin 77, 4 pages. Electrimatic Co., 3503 Howard St., Skokie, Ill. IEN-0238

VALVES . . Safety and relief valves for original equipment makers; illustrated data summaries on types for steam, liquids, gas; service recommendations. "Safety Valve Bulletin," 4 pages. Kunkle Valve Co., 112-17 S. Clinton St., Fort Wayne 2, Ind. IEN-0239

VALVES . . Lubricated plug valves, ½ to 12 in.; captioned cut-away view to show internal construction, pressure ratings, dimensions, list prices. Catalog 49-V, 36 pages. H. K. Porter Co., 1148-82 N. Peoria St., Tulsa 1, Okla. IEN-0240

VENTILATING . . "Venturi-Flo" ceiling-type air-distribution outlet fittings; cut-away view, smoke pictures to show air distribution, performance data. Catalog F-4085-1, 20 pages. Barber-Colman Co., 1312-16 Rock St., Rockford, Ill. IEN-0241

VENTILATING . . Exhaust fans, window fans, room circulator units, spray-booth fans, blowers; descriptions, sizes, rating tables, dimensions, list prices. Fan Catalog, 24 pages. Standard Electric Mfg. Co., 951 Haddon Ave., West Berlin, N. J. IEN-0242

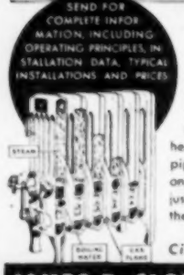
WELDING . . Rod and electrodes to weld, braze or cut steel; condensed information on properties, suggested uses, application instructions. Pocket folder, "How to Use," 6 pages. All-State Welding Alloys Co., 271-5 Ferris Ave., White Plains, N. Y. IEN-0243

WELDING . . Rod and electrodes for cast iron, steels, copper, aluminum, hard facing and for cutting; two-page selection chart with data summaries. "1952 Directory," 16 pages. Eutectic Welding Alloys Corp., 40-42 172nd St., Flushing 58, N. Y. IEN-0244

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 89

FIND WHAT YOU WANT?
Products are indexed by subject and function, page 110

BREVITY—identify by IEN - 1923 if you write the maker



STEAM HEAT! WHERE YOU WANT IT! WHEN YOU WANT IT!

Why should your office employees suffer with the cold this winter—when it's so easy to keep them warm and comfortable with Clow Gasteam Radiators. Quick steam heat! Fingertip control! No hot water pipes, boiler or furnace room to rely on! Inexpensive, because you heat just the area where it's needed—not the whole plant.

Available for City, Butane or Propane Gas

JAMES B. CLOW & SONS
701-799 N. Talman Ave., Chicago 80, Ill.

BREVITY—identify by IEN - 1924 if you write the maker

From shop hoist to truck hoist . . . in seconds!

NEW... BOOM EXTENSION ADDS 25% LOAD TRAVEL

UNIT "Utility" HOIST gives greater load travel plus three lifting points with capacities ranging from 1000 to 2000 lbs.

Hydraulically operated for shop, truck or machine, the Unit Hoist makes quick work of special handling operations. Setting pipe and water hydrants, working in manholes, reaching over obstructions are easy with the new 12" Boom Extension and optional Sheave Attachment.

REDUCE material handling time. Unit gives you perfect load control plus portability. Portable floor frame permits moving to any job in the shop. Hoist when transferred to any truck equipped with well swings 360° freely and locks in traveling position. *Write for Hoist Bulletin U-2.*

PIN LOCKS HOIST IN SAFE WORKING POSITION

THE BEST WHEN HANDLING:
Drums, Motors, Boxes & Crates, Transmissions, Pipe, Tires, Farm Machinery, Fixtures, Hydrants

UNIT
Manufacturers of hydraulic cylinders for original equipment

Floor Frame Model

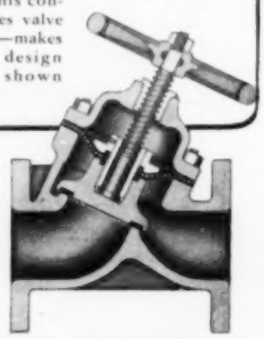
UNIT MANUFACTURING CO.
1229 HARMON PLACE • MINNEAPOLIS 3, MINN.

BREVITY—identify by IEN - 1925 if you write the maker

why CRANE diaphragm valves

• are safer,
• more durable,
• more efficient

The basic superiority of Crane Diaphragm Valves stems from their unique seating arrangement. Note that the disc and diaphragm are separate. This construction increases valve life and efficiency—makes possible other design improvements shown below.



No. 1611, Flanged; Working Pressures: 150 lbs. water, oil, air, or gas; ½ to 4-in. sizes. 125 lbs. water, oil, air, or gas; 6-in. size only. 180° F. Max. Temp.; all sizes.

LONGER DIAPHRAGM SERVICE LIFE—Diaphragm is used *only* to seal bonnet—not for seating purposes. No chance for cutting, crushing, and rapid wear.

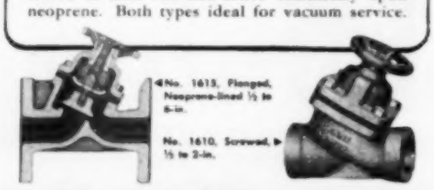
POSITIVE SHUT-OFF OF FLOW—Separate disc and diaphragm design permits tight closure even should diaphragm fail.

TIGHT SEATING—Durable and resilient insert, in face of disc holder, closes tightly against seating surface in body.

GREATER FLOW CAPACITY—Y-pattern body design offers low resistance to flow, reduces pressure drop to a minimum.

EASIER OPERATION—Less torque required to close valves, even in larger sizes and at higher pressures. Fewer turns needed to operate.

SUITED TO MANY SERVICES—Unlined iron body valves recommended for all common services; neoprene-lined valves highly suited to fluids corrosive to iron but non-active chemically upon neoprene. Both types ideal for vacuum service.



No. 1613, Flanged, Neoprene-lined ½ to 6-in.

No. 1610, Screwed, ½ to 2-in.

CRANE CO.

General Offices: 836 S. Michigan Avenue, Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas
VALVES • FITTINGS • PIPE • PLUMBING • HEATING

▼ BREVITY—Identify by IEN - 1927 if you write the maker ▼

OZITE all-hair felt has an outstanding record for solving problems of cushioning, padding, thermal and sound insulation. Our research and engineering staff are ready to give you competent assistance should you have any problems in these or similar applications.

OZITE felt in standard weights and thicknesses meets most production requirements. Special weights and thicknesses; as well as paper, cloth, or foil backings and stitched reinforcements may be had in production quantities.

Write today for OZITE bulletin No. 1500. If you desire samples for test, simply send a brief description of your application.

AMERICAN HAIR & FELT CO.
Dept. X22, Merchandise Mart Chicago 54, Illinois

▼ BREVITY—Identify by IEN - 1928 if you write the maker ▼

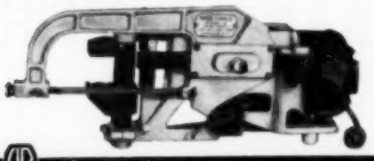
NO MORE hacksawing drudgery that everybody hates.

NOW! HAND-I-HACK*

*Trade Mark Reg. U. S. Pat. Off.

PORTABLE POWER HACK SAW

Hand-I-Hack will eliminate this drudgery. It's light—easily carried to the job. It will work in any position. It will pay for itself quickly in labor saving and broken blade costs alone. Capacity 3" x 3". Write for literature.



Lipe-ROLLWAY CORPORATION
Manufacturers of Automotive Clutches and Machine Tools
Syracuse 1, N. Y.

▼ BREVITY—Identify by IEN - 1929 if you write the maker ▼

the SAF-I-SHIELD SAFETY GOGGLE

often copied... never excelled

- Comfortable
- Strong—Rugged
- Fits Over Personal Glasses
- Made of Optilite
- Optically Correct
- Low Cost

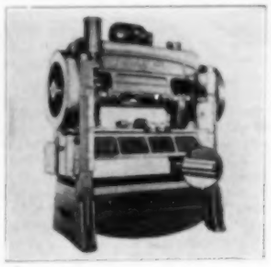
WRITE FOR LITERATURE AND PRICES

UNITED STATES SAFETY SERVICE CO.
KANSAS CITY 6, MISSOURI BRANCHES IN PRINCIPAL INDUSTRIAL CITIES
In Canada: FARMELEE, LTD. Toronto

▼ BREVITY—Identify by IEN - 1930 if you write the maker ▼

PRESS . . Straight side double crank in five ratings between 125 and 400 ton

Source: THUNDER BAY MFG. CO.
227 Iron St., Detroit 7, Mich.



Drilled for cushions

Five bed sizes are included in the company's recently improved line of straight-side double-crank presses. The smallest measures 36 by 60 inches. The largest is 48 by 84 inches. All five can be specified in any one of the five available load ratings between 125 and 400 ton. Each press provides openings through the side housings for work feed from either side. Each is equipped with fluorescent lights just above the bed to illuminate the work and tools. The drive motor mounts on top of the frame and connects by Veelos V-belt to the flywheel countershaft.

Stanard equipment includes Ampco bronze bearings and bushings and liners for the main and pitman bearings. The metal is employed also for sprockets and gears. Drive includes a Rockford friction clutch and American Chain & Cable Tru-Stop disc brake with air-cylinder operation for both. Controls provide for single-stroke, non-repeat, continuous and inching operation. Control centers at a pushbutton station at the operator's position. The company is prepared to supply shut height and stroke to meet specifications.

▼ BREVITY—Identify by IEN - 1931 if you write the maker ▼

SANDING . . Two part drum mounts strip of abrasive cloth

Source: CARBORUNDUM CO.
1942 Buffalo Ave., Niagara Falls, N. Y.

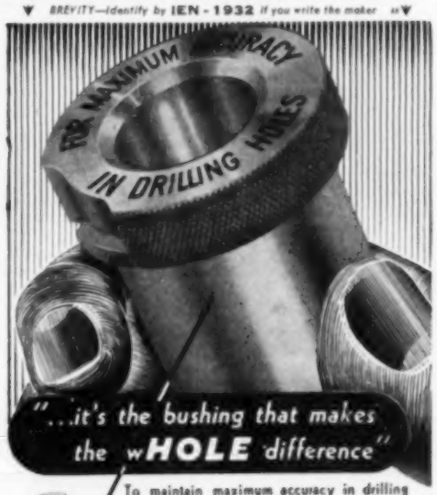
No bounce at the joint

Cone-Loc trade names a new rubber or felt-faced metal drum that mounts on a portable or stationary arbor for sanding and polishing operations. The drum is two-part design. It is pinned on one side and is fitted with a cone-shaped hub. This hub applies on a flanged bushing that mounts on the driving arbor. The two drum parts are clamped together to secure the abrasive in place when a cone-shaped washer is fitted over the arbor and is drawn down by the arbor nut on the tapered hub.

Four diameters are 6¼ to 16 in. in rubber-faced design. Width is 1 to 4 inches. The 6¼-in. unit can be supplied with a ½ to 1¼-in. arbor hole in ¼-in. steps. This unit weighs 1½ lb. and lists at $23.25. The 16-in. drum measures 4 in. in width. It can be specified with a ⅝ to 2-in. arbor hole. It weighs 28 lb. and lists at $150. Three felt-cushioned units are 6¼ in. in diameter by 1 to 2 in. in width. They weigh 1¼ to 2 lb. and can be specified with a ½ to 1¼-in. arbor hole. List price is $19.75 to $23.25 for these last three units.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1932 if you write the maker ▼



To maintain maximum accuracy in drilling operations, use the bushing that's precision made for the job...use Acme. Write for catalog.

Acme Industrial Company
Makers of Hardened and Ground Precision Parts
215 N. LAFLIN STREET • CHICAGO 7, ILLINOIS
THE SERVICE SHOP TO MODERN JIG BORE USERS

▼ BREVITY—Identify by IEN - 1933 if you write the maker ▼

YOU CUT COSTS 4 WAYS with "QUIK-LIFT" hoists

1. **"Quik-Lifts" Cost You Less** per year to own because they are better built, last longer . . . save on both maintenance and replacement.
2. **Save You Money By Saving Time.** "Quik-Lifts" eliminate time and effort wasted by workers operating hand hoists—cut idle machine time, speed production.
3. **Protect You from Loss or Damage.** Shoe type brake cannot slip or drop load. Fool-proof switch stops hoist when load hook reaches upper or lower limit.
4. **Exact Model for Your Job** assures top operating efficiency. "Quik-Lifts" are available in 17 sizes, 500 to 4000 lb. — lifting speeds 4 to 49 ft. per min. — hook or lug suspension—with or without trolley.

Write for illustrated folder P2E giving complete information.

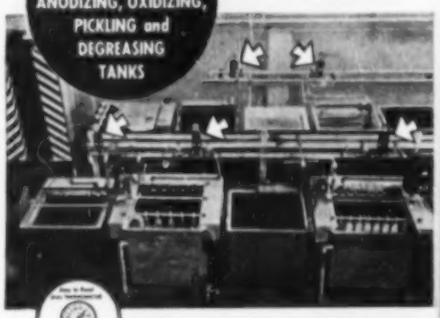
COFFING HOIST Company
Danville, Illinois

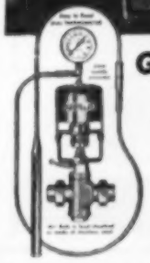
HOIST-JACKS, SAFETY-PULL RATCHET LEVER HOISTS, SPUR-GEARED HOISTS, "MIGHTY MIDGET" PULLERS, LOAD BINDERS, TROLLEYS

▼ BREVITY—Identify by IEN - 1934 if you write the maker ▼

In PLATING, CLEANING and RINSE TANKS, ANODIZING, OXIDIZING, PICKLING and DEGREASING TANKS

Below: Official U. S. Navy Photograph Michelson Laboratory Naval Ordnance Test Station Inyokern, Cal.

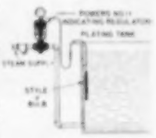




Get BETTER Control SAVE LABOR Reduce Costs with— POWERS

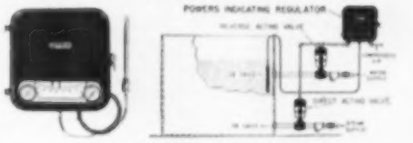
No. 11 TEMPERATURE REGULATORS

Most of the more than 30 steam heated tanks used in the Navy's modern shops shown above are automatically controlled by Powers regulators. They maintain a constant temperature, end losses caused by OVER-heating, help reduce rough plating, buffing time and decomposition of plating solutions.



Easy to Install—self-operating, have an easy to read 4" dial thermometer which shows temperature of plating solution under control. They are available with either lead sheathed or stainless steel bulbs. Bulletin 329 gives full information.

Compressed Air Operated Indicating Regulator



POWERS Series 100 Regulator

Accurately Controls heating and cooling of plating solutions

Powers has the most complete line of temperature regulators made for metal finishing operations. Contact our nearest office for further information, or

Write for Circular PLN

THE POWERS REGULATOR COMPANY
3437 Oakton Street, Skokie, Illinois (PLO)
Established 1891 • Offices Over 50 Cities • See Your Phone Book

BREVITY—Identify by IEN - 1936 if you write the maker

"MOTO-TRUCS are more dependable and give longer service greater value" say MOTO-TRUC USERS

Their shorter turning radius and rugged power enable them to do jobs no other "Walkie" can do.

● Since 1936, when Moto-Truc brought the first motorized hand truck, they have proven their superiority for all operations in the "Walkie Field."

● From zero cold to desert heat, they work with steady efficiency day after day. Ease of operation (all controls in handle), and a minimum of repair and replacement expense make them the favorite of both Labor and Management.

A "twist of the wrist" does it.

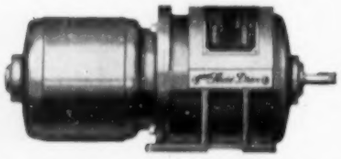
SEND FOR Bul. No. 51

DON'T BE SATISFIED WITH LESS THAN THE BEST.

THE MOTO-TRUC CO.
1953 E. 59th ST., CLEVELAND 3, OHIO
PALLET PLATFORM AND HI-LIFT TRUCKS

BREVITY—Identify by IEN - 1937 if you write the maker

American Blower TM Type GYROL FLUID DRIVES



OPERATING ADVANTAGES:

- Provide benefits of smoother acceleration, overload protection, shock absorption.
- Patented "Load Ring," plus clearly indexed degrees of oil filling, provides matched overload protection and most efficient full-load operating characteristics.
- Provide smooth flow of power when used alone or with a standard geared speed reducer.

Free trial units are available to original equipment manufacturers.

AMERICAN BLOWER
American Blower Corporation, Detroit 32, Michigan
Division of American Radiator & Standard Sanitary Corporation

Serving home and industry: AMERICAN STANDARD • AMERICAN BLOWER • ACME CORNICE • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILERS • ROSS HEATER • TUNKHANNOCK IRON

BREVITY—Identify by IEN - 1938 if you write the maker

FOTO-FLO* MODEL C PHOTO-COPYING MACHINE

New! Speedier! More Economical!

DAYLIGHT OPERATION NO DARKROOM REQUIRED

Makes up to 5 (18" x 24") Prints a Minute of anything written, printed, drawn or photographed

WRITE DEPT. 52-56 for information showing how FOTO-FLO can speed production and lower photo-copying costs.

*Reg. U. S. Pat. Off.

HALOID THE HALOID COMPANY ROCHESTER 3, NEW YORK
Branch Offices in Principal Cities
Photocopy Papers • Photo copying Machines • Photographic Papers

BREVITY—Identify by IEN - 1939 if you write the maker

DRILLING . . Portable electric tool carries ¼-in. chuck, weighs 3¼ lb.

Source: BLACK & DECKER MFG. CO.
715 E. Pennsylvania Ave., Towson 4, Md.

Compact and husky

New drill in the company's Holgun line is designed for heavy-duty service and is available in either of two no-load speeds at 600 or 1,700 rpm. The low-speed unit can be specified also for operation at 1,000 rpm. The high-speed design is optional at 2,500, 3,500 or 5,000 rpm. Drive is by a universal motor for operation as specified on 110 or 220-volt input. Shafts are mounted on ball bearings. Gears are heat treated. The housing is aluminum.

The assembly features a new handle shaped to provide ample finger room and balance to minimize fatigue in continuous duty. Control centers at a two-pole trigger switch that can be locked into operating position.

BREVITY—Identify by IEN - 1940 if you write the maker

COUNTING . . Wheel type unit is rolled to measure distance or length

Source: TRUMETER CO.
1265 Broadway, Room 406, New York 1, N. Y.

Made in England

New length counter consists of an aluminum wheel measuring either 1 yd. or 1 meter in circumference, chain connection to a counter and mounting for both wheel and counter on an operating handle. This handle is made of a tube balanced to prevent tilting and equipped with a hand grip at its rear end. A scraper is mounted at the rear of the wheel to remove obstructions that might cling to it and prevent accurate measurement. The counter can be specified to read to 9,999 yd., the same number of feet, or equivalent metric units, to meet given requirements.

BREVITY—Identify by IEN - 1941 if you write the maker

SHIPPING . . Booklet of suggestions on how to load products into CAEX-DF freight cars

General American-Evans Co.
2840-44 W. Grand Blvd., Detroit 2, Mich.

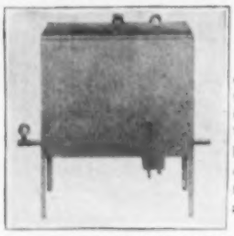
Reinforced construction is explained for the company's freight car by a captioned cut-away view in new 44-page "Operations Manual," available on request. Individual descriptions tell how to sectionalize a load with bracing supplied with the car, how to stow loads of various kinds, unloading procedures. Drawings show how to stow seven types of loads. Large prints of these drawings will be sent on request. A post card is included.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 90

BREVITY—Identify by IEN - 1942 if you write the maker

A PAID NEWS ADVERTISEMENT BY HONAN-CRANE CORP.

HOUDAILLE WATER-OIL SEPARATOR . . . New unit removes water—filters oil



Simplicity of design and efficient, economical operation are featured in Honan-Crane's new Houdaille Water-Oil Separator for turbine, hydraulic, quenching oils, etc.—any oil purification problem where water is a troublesome factor.

The Separator reduces water content of oil to an insignificant trace—provides for the first time, a simple, practical method of separating water from oil.

New unit eliminates necessity for changing or discarding oil regardless of the type of contamination encountered, because it **performs a complete filtering service**—removing solid contamination, acids, and other sludge-forming products of oxidation—**as it separates** the water. Continuous operation of the Separator on by-pass circulation keeps the oil in safe operating condition indefinitely.

The Separator contains filtering unit, thermostatically controlled heating and settling tank, and an oil purifying unit employing either fullers earth or cellulose fibre. Separator is easy to install, simple to operate. Equipment bulletin with complete details available on request.

HONAN-CRANE CORPORATION
subsidiary of HOUDAILLE-HERSHEY CORP.
802 Wabash Avenue, Lebanon, Indiana

BREVITY—Identify by IEN - 1943 if you write the maker

Hot "juice" for cold jets

When the United States Air Force needed a sure-fire power package to start jets blasting in any weather, **they called on Lycoming for research and precision production.**

One generator for any climate, many uses! *Air-cooled*—to withstand 65° below or 135° above. *Portable*—to wheel along rows of waiting jets. *Light* and *compact*—for air transport. That's the power package developed by Lycoming and the United States Air Force.

Whatever your problem—power . . . precision machining . . . product development . . . high-volume production—look to Lycoming.

AIR-COOLED ENGINES FOR AIRCRAFT AND INDUSTRIAL USES, PRECISION AND VOLUME MACHINE PARTS, STEEL PLATE FABRICATION, GRAY IRON CASTINGS

LOOK TO **LYCOMING** FOR RESEARCH FOR PRECISION PRODUCTION

Lycoming-Spencer Division, Williamsport, Pa.
Bridgeport Lycoming Division, Stratford, Conn.
AVCO

BREVITY—Identify by IEN - 1944 if you write the maker

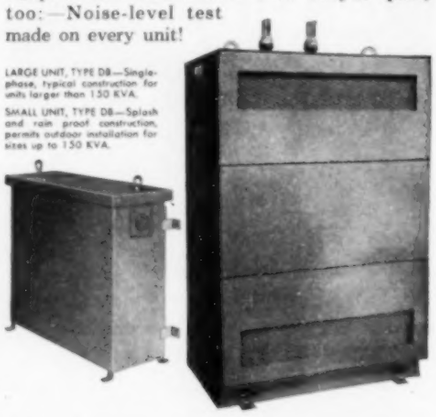
Cut costs . . . save space . . . WITH UPTEGRAFF Dry Type TRANSFORMERS

Easy to Install
Economical
Dependable

Uptegraff Dry Type Transformers are lightweight, easy to install, do not require special vaults, are safe and dependable. Made in all commercial sizes from 0.1 to 2500 KVA, single- or three-phase. Fireproof class B insulation used. They're quiet, too:—Noise-level test made on every unit!

LARGE UNIT, TYPE DB—Single-phase, typical construction for units larger than 150 KVA.

SMALL UNIT, TYPE DB—Splash and rain proof construction, permits outdoor installation for sizes up to 150 KVA.



Makers of: POWER • DISTRIBUTION • INSTRUMENT AND SPECIALTY TRANSFORMERS

R. E. UPTEGRAFF MANUFACTURING CO.
THOMAS STREET . . . SCOTTDALE, PENNSYLVANIA

BREVITY—Identify by IEN - 1946 If you write the maker

PHILLIPS

Skilsaw reports improved cleaning before painting and assembly.

Above: Metal parts are cleaned in Phillips Model 60 degreaser. Inset shows parts after degreasing.

HERE is another case illustrating the high cleaning efficiency of Phillips degreasers. Skilsaw, Inc., Chicago, uses a Phillips Model 60 electric batch-type machine to clean both aluminum and iron castings, steel stampings, shafts and screw machine parts before painting and assembly of the finished product.

Skilsaw reports that the Phillips unit cleans their parts better, as well as 3 to 4 times faster than their former method.

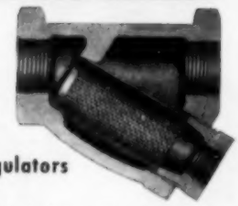
Check into the time and money you can save with Phillips Vapor Degreasing. Our representative will be glad to discuss your parts cleaning problem with you.

SEND FOR YOUR FREE COPY OF NEW ILLUSTRATED DEGREASER BULLETIN!

Phillips 3461 Touhy Ave. • Chicago 45, Illinois
MANUFACTURING COMPANY
Vapor Degreasers • Solvents • Parts Washers

BREVITY—Identify by IEN - 1947 If you write the maker

POLICE PIPELINE EQUIPMENT



- ★ Pumps
- ★ Air Tools
- ★ Reducing Valves
- ★ Steam Traps
- ★ Temperature Regulators

Police and protect vital pipeline equipment with Anderson strainers. These high quality strainers, at a low price, have a sturdy stainless steel mesh screen that stands up under severe strain. A larger free area lengthens intervals between cleanings. All sizes available at your nearby industrial distributor. Write for Bulletin 252.

THE V. D. ANDERSON COMPANY
1931 West 96th Street · Cleveland, 2, Ohio

ANDERSON STRAINERS

BREVITY—Identify by IEN - 1948 If you write the maker

M.Z.B. *Mauser Type*
PRECISION VERNIER CALIPERS
The most popular PRECISION MEASURING TOOL *the world over*

Leather cases $1.00 extra

$14. Postpaid

Featuring
- For measuring outside, inside and depth
- Measuring capacity 5½"
- Each caliper has two accurately divided scales and verniers to read
  (A) Decimals to .001" and 1/128 m.m. (Cat. # 30-64)
  (B) " " .001" and 1/128" (Cat. # 30-61)
- Full visibility of scales in all positions
- Clear cut markings
- In most cases no magnifying glass needed
- Special chrome steel, spring tempered, glass hard on measuring surfaces
- Setting remains fixed and will not shift when pressure on lock is released

Stainless steel and large sizes also available
WRITE DEPT. C
INTER-CONTINENTAL TRADING CORP.
90 WEST STREET, NEW YORK 6, N. Y.

BREVITY—Identify by IEN - 1949 If you write the maker

RELAY . . Sub-miniature design, double pole double throw assembly

Source: NORTH ELECTRIC MFG. CO.
3440 S. Market St., Galion, Ohio

Type IR207

An aluminum shell housing this new relay forms a ⅞-in. cube. It carries a Hermaseal hermetically-sealed header measuring 0.6 in. in outside diameter and 8 solder-type terminals. The relay will operate normally under 50G acceleration and vibration to 60 cps. It delivers approximately 25-gram force on its palladium contact points which rate 3 amp. on 30-volt dc.

The standard coil rates 18 volts at 85 deg. C. Standard resistance is 500 ohms but other units in the line are available with resistance to 3,000 ohms. Operating temperature is in a range between minus 65 deg. and plus 85 deg. C. The unit bolts to a panel with terminals extending through to the rear. It can be specified with a dry-air or dry-nitrogen fill.

BREVITY—Identify by IEN - 1950 If you write the maker

PROCESSING . . Vegetable oil serves as replacement for castor oil

Source: SPENCER KELLOGG & SONS
45 Niagara Square, Buffalo 2, N. Y.

In tank car and truck lots

Kelcastol is a modified vegetable oil with the same viscosity, non-drying characteristics, light-straw color, and solubility in all proportions in methyl and ethyl alcohols as castor oil. It also is soluble in various solvents employed in manufacture of hydraulic fluids. It is available without restriction. Patents have been applied for the new material.

BREVITY—Identify by IEN - 1951 If you write the maker

ELEVATOR . . Truck mounted hydraulic to handle ice into refrigerator car

Source: LEWIS-SHEPARD PRODUCTS INC.
190 Walnut St., Watertown 72, Mass.

Structural carriage on this new Car-Icing Stacker is raised and lowered by hydraulic pressure from a pump connecting to a power take-off on a truck. The carriage and elevating mechanisms mount on the truck body so the carriage floor forms a part of the truck bed. Hinged gates on the two sides act also as ramps.

Two sizes rate 1 and 2½ ton to handle 6 or 12 cakes of ice. The truck operates alongside a railroad siding so the refrigerator cars need not be moved for icing position.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1952 If you write the maker

AJAX KNOWS COUPLINGS

● Use of Neoprene Bushings combine Ajax resilient yet positive drive with the chemical resisting characteristics of Neoprene. They help processing plants in chemical, petroleum and similar industries reduce downtime. Ajax Flexible Couplings have been regarded as THE STANDARD for 30 years.

Write for Bulletin 48

AJAX FLEXIBLE COUPLING CO. INC.
WESTFIELD, N. Y.

BREVITY—Identify by IEN - 1953 If you write the maker

It Makes No Difference to

SYNTRON

DEPENDABLE

ELECTRIC HAMMERS

They'll Save You Money and Time on any Job that Requires Drilling, Cutting and Chipping in Concrete and Masonry.

—and on scores of other jobs, too—scaling, tuck pointing, bush hammering, redressing mill stones, etc.

Write for illustrated folder

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.

BREVITY—Identify by IEN - 1954 If you write the maker

CHICAGO

Mounted WHEELS

FIRST AND FINEST

10 Big Advantages

1. First in the Field — Unexcelled "Know-How"
2. Stronger Mandrels — Special Analysis Steel
3. Wheels Guaranteed to Remain on Mandrels
4. Constant Concentricity for Perfect Balance
5. Widest Variety of Sizes and Shapes
6. Strongest Construction for Longest Life
7. Greater Cutting Freedom — Faster Cutting Action
8. Better, Finer Finishes Positively Assured
9. Job-Engineered to Your Particular Requirements
10. Recommended by Skilled Mechanics and Craftsman

CHICAGO WHEEL & MFG. CO.
Dept. H, 1101 W. Monroe St.
Chicago 7, Illinois

Write for Free Catalog.

BREVITY—Identify by IEN - 1955 If you write the maker

CHECK—CLIP—MAIL this listing for free copies

- [ ] TB-324 –Hundreds of Different Parts Made Economically from B&W Mechanical Tubing.
- [ ] TB-333 –Better Products at a Saving from B&W ERW Carbon Steel Mechanical Tubing.
- [ ] TDC-119D–Combined Standard Steel lists of AISI and SAE.
- [ ] TDC-141 –B&W Alloy Steel Tubing, Medium Carbon Grades (Full-Hardening).
- [ ] TDC-149 –B&W Alloy Steel Tubing, Low-Carbon Grades (Carburizing).

THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION
General Offices and Plants:
Beaver Falls, Pa.—Seamless Tubing; Welded Stainless Steel Tubing
Alliance, Ohio—Welded Carbon Steel Tubing

▼ BREVITY—Identify by IEN - 1956 if you write the maker ▼

A Better Strainer! —by DAVIS

—with BOLTED CAP

Bolted cap construction is used in sizes from 1½" to 12".

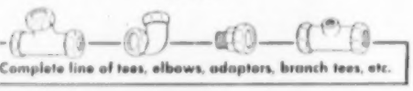
If you think all strainers are alike, ASK THE MAN WHO HAS TO GET INTO THEM! Davis builds strainers with bolted caps, (instead of threaded caps) because numerous engineers have asked for them. It's easier to remove bolts than to try to unscrew a large thread cap after a strainer has been in use. Also makes possible locating blow-off at lowest point; no sediment pocket. Don't confuse Davis precision-made strainers with ordinary pipe fittings. Available in wide choice of types for steam, air, gas, or fluids. Semi-steel, bronze, or steel bodies; screwed or flanged. Pressures to 1500 p.s.i. Brass, stainless or monel trim. Ask for bulletin 100-A.

DAVIS REGULATOR CO.
2529 So. Washtenaw Ave., Chicago 8, Illinois

▼ BREVITY—Identify by IEN - 1957 if you write the maker ▼

VIBRATION

Dresser Style 65 Fittings are ideal where you have vibration to contend with. Their resilient gaskets absorb all normal vibration and deflection movements of pipe . . . preventing stresses that often cause failure. Sizes ⅜" to 2" pipe diameter. Write for STYLE 65 CATALOG.



Complete line of tees, elbows, adaptors, branch tees, etc.

DRESSER "NO-THREAD" FITTINGS

Dresser Manufacturing Division, 59 Fisher Ave., Bradford, Pa. (One of the Dresser Industries). Sales Offices: New York, Philadelphia, Chicago, Houston, South San Francisco.

▼ BREVITY—Identify by IEN - 1958 if you write the maker ▼

Know These Facts About SAVINGS on SLOW-SPEED DRIVES?

1. Know that you can select a drive to give you any speed from 11 to 154 r.p.m. direct from distributors' stocks saving design and engineering costs?

2. Know that there is a slow-speed drive available that costs very little initially and almost nothing to maintain?

3. Know that there is a standard speed reduction unit available that will give you higher production, less down-time and positive protection against overload damage?

4. Want to know more about it?

Get the story on American Speed Reduction Drives in a hurry—clip and mail the coupon below to:

THE AMERICAN PULLEY COMPANY
4240 Wissahickon Ave., Philadelphia 29, Penna.

Gentlemen:
I have a slow-speed problem—these facts I want RIGHT AWAY—
Please rush your bulletin on American Speed Reducers to:

NAME _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

▼ BREVITY—Identify by IEN - 1959 if you write the maker ▼

TRUCK . . Rack equipped trailer for sheet stock on edge, rates 3 ton

Source: MARKET FORGE CO.
23-27 Garvey St., Everett 49, Mass.

For hand or tractor movement

Seven openings, each 4⅝ in. in width, are provided between the channel uprights of this new rack-equipped trailer truck to hold sheet stock in upright position. The sheets ride on ball bearing rollers just above the truck platform so they can be moved in and out without difficulty. The truck measures 8 by 3 by 6 feet. The compartment height clears 53 inches.

Truck mounting is on four center wheels fitted with cushion-rubber tires and on four casters, one at each corner. They are equipped with 8 by 2½-in. cushion-rubber tires. All of the wheels are fitted with ball bearings. Two floor locks, one on each side of the truck, hold it stationary while the sheet stock is being loaded or removed.

▼ BREVITY—Identify by IEN - 1960 if you write the maker ▼

SANDING . . Portable electric tool drives 7 in. disc, weighs 7½ pounds

Source: MILLERS FALLS CO.
55-59 Wells St., Greenfield, Mass.

For metal or wood

No. 870 is a new portable electric sander that is supplied with a 7-in. flexible rubber pad, a 7-in. semi-rigid Co-Ro-Lite pad and three 7-in. assorted cloth-backed sanding discs. Rotation is at 4,500 rpm. at no load. Drive is by a universal motor for operation on 110 volts.

Construction includes heat-treated alloy-steel gears, pinions and spindles of the same material, factory-lubricated and sealed ball and needle bearings, motor brushes in accessible position for inspection or replacement. The tool is suited for sanding, wire brushing, grinding and polishing on metal, wood, tile, plastic, glass.

▼ BREVITY—Identify by IEN - 1961 if you write the maker ▼

MANAGEMENT . . Book on time study describes how to set standards and to check them

Wm. C. Brown Co.
913-17 Main St., Dubuque, Iowa

"Work Measurement Manual" is a 304-page paper-bound book that lists at $4.75 for its new Fourth Edition. Author is Ralph M. Barnes. It covers procedures employed in making a time study, performance rating of time-study men, work-measurement experiments, results of work-measurement studies, community and other time-study surveys.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1962 if you write the maker ▼

NOW for the first time!

Stress-Engineered ARBOR PRESSES

for greater STRENGTH

Stress-Engineered to put every pound of metal to work—to increase overall strength!

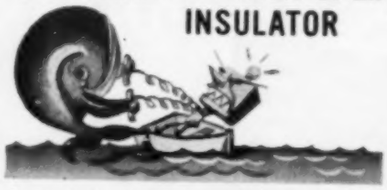
Features:
Big capacity! Heavy, stub-tooth alloy steel rack and pinion gears; Ram take-up adjustments; Lever or handwheel operation, plain tables or with platen. 3 Sizes: ½, 1 and 2 Tons.

WRITE FOR DESCRIPTIVE CIRCULAR!

benchmaster
MANUFACTURING COMPANY
1835 W. Rosecrans Avenue, Gardena, California
WORLD'S LARGEST MFGRS. OF SMALL PUNCH PRESSES AND MILLS

▼ BREVITY—Identify by IEN - 1963 if you write the maker ▼

SYNTHANE is a Whale of an INSULATOR



Synthane laminated plastics have a combination of superior electrical qualities that may make them just the materials you've been seeking to make your product better.

One advantage is excellent electrical insulating ability. Others are high dielectric strength, low dielectric constant and low power factor. Together with Synthane's light weight, ease of machining and good mechanical and chemical characteristics, they make Synthane a valuable material for many applications in almost every industry.

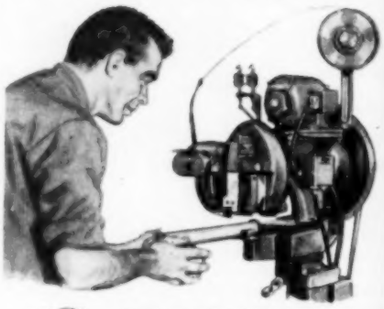
If your present materials are in any way unsatisfactory and your quality standards are high it may pay you well to find out more about Synthane. For your copy of the Synthane catalog, clip and mail the coupon today.

TECHNICAL PLASTICS
SHEETS • RODS • TUBES
FABRICATED PARTS
SYNTHANE
MOLDED-LAMINATED
MOLDED-MACERATED

SYNTHANE CORPORATION
South River Road, Oaks, Pa.
Please send me a copy of the complete Synthane catalog.
Name _____
Firm _____
Address _____
City _____ State _____

▼ BREVITY—Identify by IEN - 1964 if you write the maker ▼

How to cut assembly costs by stitching metal and other materials together



"Waste neither time nor money, but make the best use of both."
—Ben Franklin, 1748

Assembly time and assembly costs are important to your over-all profit picture. The fastening method you use may well be the difference between black ink or red.

In many cases today you can assemble products far faster, better, and at lower cost with an Acme-Morrison Metal Stitcher than you can with expensive rivets, screws, nails, bolts or spot welds.

You can stitch steel to brass or copper or aluminum, or stitch such metals in many combinations to materials such as wood, felt, cork, canvas, leather, rubber, fibre, plastic or asbestos.

Many manufacturers have saved materials and labor costs, and improved their finished products at the same time, by turning to Metal Stitching.

To find out if you can, too, send in the coupon below for your free copy of our new 12-page booklet!

ACME STEEL COMPANY
2840 Archer Avenue, Chicago 8, Illinois
Steel Strapping—Stitching Machines and Wire — Corrugated Fasteners
ACME STEEL

FREE

ACME STEEL COMPANY
Acme Steel Products Division, Dept. IEN-22
2840 Archer Avenue, Chicago 8, Illinois
Please send me a free copy of your new booklet, "Metal Stitching—a new technique in fastening."
NAME _____ TITLE _____
COMPANY _____
STREET ADDRESS _____
CITY _____ ZONE _____ STATE _____

▼ BREVITY—Identify by IEN - 1966 if you write the maker ▼

Lift for less Handle for less

Find out specifically why . . . how. Study these models. Get REVOLVATOR prices, load capacities, performance data . . . convincing evidence on how you can lower cost-per-load; handle loads easier, faster, safer.

Powerful! Double Stroke RED GIANT LIFTRUCK raises materials in two easy steps . . . needs only half the effort.

Economical! Double cable on UPLIFTER to double power — change capacity from 500 to 1000 lbs.

Finger Tip Control. GO-GETTER Pallet Type LIFTRUCK with the strength of a gang of men raises load four inches in only 4 seconds, lowers gently, quietly.

Designers and Manufacturers of Materials Handling Equipment Since 1904

WRITE US:
8759 Tonnele Ave.
North Bergen, N.J.

REVOLVATOR CO.

▼ BREVITY—Identify by IEN - 1967 if you write the maker ▼

send for this sample . . . it may open your eyes!

A simple request will bring you a sample of one of the most amazing materials ever developed by science. It is Tufflex, the fiber felt, and it's cutting production costs—adding quality—in many industries today. Tufflex is downy soft—amazingly resilient. It cushions. It withstands heavy impact blows. It insulates. It deadens sound. It is easily fabricated to any size or shape. Tufflex is available in a variety of densities and thicknesses—and in moisture resistant and fire retardant forms. Learn more about the many new uses for Tufflex—send today for your sample and complete information. Wood Conversion Company, Dept. 126-22, First National Bank Bldg., St. Paul 1, Minnesota.

TUFFLEX* A Product of Weyerhaeuser

*REG. U. S. PAT. OFF.

▼ BREVITY—Identify by IEN - 1968 if you write the maker ▼

All pins, rollers, rockers and upper poppets are hardened. Entire mechanism shielded by an enclosed manganese bronze handle casting. Simple design permits body to be removed from base without disturbing piping. Easily and quickly serviced.

Send for new Catalog

NUMATICS MILFORD

A few select territories are still available to progressive distributors who might be interested in representing Numatics Operating Valves. Inquiries invited.

▼ BREVITY—Identify by IEN - 1969 if you write the maker ▼

LAYOUT . . Granite surface plate available in sizes to 4 by 10 feet

Source: COLLINS MICROFLAT CO.
2324-28 E. 8th St., Los Angeles 21, Calif.

Available nationally

Surface accuracy for the company's new line of black-granite surface plates is within 0.000005 inch. This accuracy is obtained by surface lapping and then by checking with an auto-collimator in which a beam of light reflected by a mirror is deflected if the mirror is tilted. The beam reveals minute inaccuracies for the finisher's guidance. Sizes range from 9 by 12 in. to 48 by 120 inches. The largest unit weighs about 7,000 lb. and, depending on design, lists at $1,700 to $2,150. Descriptive literature is available.

▼ BREVITY—Identify by IEN - 1970 if you write the maker ▼

MARKING . . Printed plastic sheet adheres removably to polished surface

Source: LEATHERTONE INC.
258-62 Tremont St., Boston 16, Mass.

Sample available upon request

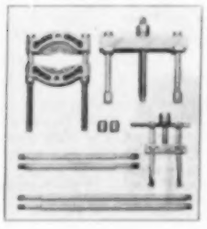
Self-Adhering designates a completely limp new plastic sheet. It will lie in sufficiently close contact to glass or a polished surface so it excludes all of the air between it and the surface and thus remains in place until it is peeled away. The sheet is supplied in 10 and 20 gage thicknesses in sheets measuring 20 by 40 in. in drums containing 100 sheets. List price is 15 and 20 cents per square foot. Each drum contains 55.55 square ft. Colors are clear, black, white, red, blue.

The company is prepared to supply the sheet for the user to print and to laminate. Or the user can print and return the sheet to be laminated, or specify the complete job. In the latter case the company can supply the sheets, have the printing done, complete the laminating operation, if lamination is required, and supply the finished parts.

▼ BREVITY—Identify by IEN - 1971 if you write the maker ▼

PULLING . . Hand operated tool set to service Caterpillar tractors

Source: OWATONNA TOOL CO.
371 Cedar St., Owatonna, Minn.



Set No. CT-6 is a new assembly of wrench-operated pulling tools, connectors and attachments to apply on Caterpillar tractors No. D8, DW-20 and DW-21. The tools are supplementary to the hand-hydraulic set previously described IEN-942-52. A 2¼-in. box wrench No. MA-72 on an M-32 handle is recommended as the operating unit.

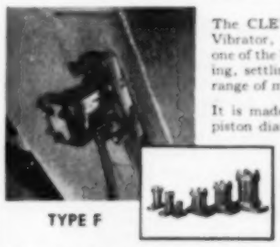
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1972 if you write the maker ▼

A PAID NEWS ADVERTISEMENT BY CLEVELAND VIBRATOR CO.

AIR VIBRATOR

moves wide range of materials



TYPE F

The CLEVELAND Type F Air Vibrator, illustrated herewith, is one of the basic types used in moving, settling or packaging a wide range of materials.

It is made in 6 sizes, from 1¼" piston diameter to 4" piston diameter, capable of handling materials from the smallest chute, bin or hopper to the largest of bulk storage bins.

The Type F Air Vibrator can move steel chips; dry colors; concrete; and fertilizer. It works equally well on sand, coal and soap; chipped ice and meat; wood chips; and almost any other material which is inclined to plug up, arch or bridge.

The Type F is easily installed by mounting or bolting through the skin of the hopper and a reinforcing plate. This distributes the impact of the vibration over a wider area and prevents distortion of the hopper skin.

An air-cushioned semi-noiseless type is available where NOISE is a factor.

BIN Stuck Lately? Catalog No. 105 will give you further details.

THE CLEVELAND VIBRATOR CO.
2737 Clinton Avenue • Cleveland 13, Ohio

▼ BREVITY—Identify by IEN - 1973 if you write the maker ▼

Now! CONTROL AIR OPERATIONS ELECTRICALLY!

PUSH BUTTON OR LIMIT SWITCH CONTROL FOR

- AIR CYLINDERS
- AIR CIRCUITS
- AIR-OPERATED PRESSES

Quiet . . . dependable . . . economical. Unlimited range of applications. Ideal for remote control or for building into equipment. Two types. Ask for Hannifin recommendations.

GET BULLETIN 230
Contains specifications, dimension table, wiring diagrams and other useful data.

HANNIFIN

Hannifin Corporation • 1107 S. Kilbourn Ave. • Chicago 24, Illinois

▼ BREVITY—Identify by IEN - 1974 if you write the maker ▼

Fast . . . accurate . . . the power, gun firing, turret control and communications in a fighting tank depend on expert industrial design and production techniques on the home-front, where speed and precision meet again in business machine "paper work". In mills, factories and in banks Guardian Relays control devices that count—compute—sort—convey—package—vend—meter and mail. Basic . . . flexible . . . government approved . . . *hermetically sealed* or open type mounted . . . Guardian Relays serve all fronts . . . will serve you well!

GUARDIAN ELECTRIC
1620-B W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

▼ BREVITY—Identify by IEN - 1975 if you write the maker ▼

MULTI-PURPOSE ELECTRIC FURNACE

TEMCO

SERIES 1500 . . . FOR GENERAL LAB WORK and HEAT TREATING

Ideal in the laboratory for ashing, ignitions, fusions, process control and general laboratory work. Use in the plant for hardening and tempering tools and dies and small unit production heat treating. Fast heating and can be operated continuously to 1650° F. and intermittently to 1900° F.

Equipped with indicating pyrometer and Temcometer stepless controller which automatically holds desired temperature unaffected by voltage fluctuations.

Welded steel case, 3" dual insulation, up-lifting counterbalanced door, 115 or 230 Volts, 60 cycles. Chamber sizes 4" wide, 3¾" high and 4½" or 9" deep. Priced from $92.50 to $112.50. Write for data and dealer's name.

THERMO ELECTRIC MANUFACTURING CO.
482 Huff St., Dubuque, Iowa

BREVITY—Identify by IEN - 1976 if you write the maker

STURTEVANT DUSTLESS BLENDERS

Thoroughly Blend Substances into an Inseparable Mass

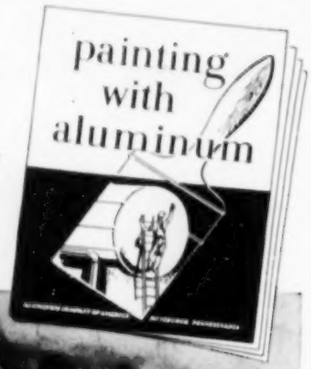
The 4-Way Mixing Action of the Sturtevant Dustless Blenders thoroughly mixes two or more substances into an inseparable whole . . . every part of which is the same analysis. Single receiving and discharging opening insures tight sealing during mixing process. "Open-door" accessibility permits thorough cleaning. The fast, accurate mixing operation increases output . . . cuts mixing costs. Mixing capacities from ¼ ton to 75 tons per hour. Write.

STURTEVANT MILL COMPANY
119 CLAYTON STREET • BOSTON 22, MASS.

BREVITY—Identify by IEN - 1977 if you write the maker

How to brighten dark rooms with One Coat

FREE BOOK tells how to do this and scores of other painting jobs



31 PAGES OF USEFUL PAINTING INFORMATION

NEW FREE BOOK TELLS HOW to get better paint results at lower cost . . . how to buy and apply the right aluminum paints.

Alcoa does not make paint. We have prepared this book so you can know about the many new improvements in aluminum paints; can buy the correct paints without lengthy specifications and tests; can apply them best for lasting protection and good appearance.

This book gives worth-while maintenance painting tips; includes coverage tables, tells what aluminum paints to use inside and out, on wood, metal, masonry and heated surfaces. Send for your free copy. Attach the coupon to your letterhead and mail now.

ALUMINUM COMPANY OF AMERICA
Paint Service Bureau, 1786-B Gulf Bldg., Pittsburgh 19, Pa.
Please send me a free copy of: "Painting with Aluminum".

Name (Please print) _____
Address _____
City _____ State _____

Look for this shield on aluminum paints made by many paint manufacturers using ALCOA PIGMENTS.

The RIGHT aluminum paint for this job is ALUMINUM METAL & MASONRY PAINT.

ALCOA ALUMINUM ALCOA ALCOA

BREVITY—Identify by IEN - 1979 if you write the maker

ELECTRONIC TUBE . . Ignitron unit for frequency change in welding

Source: RADIO CORP. OF AMERICA
413-17 S. 5th St., Harrison, N. J.

Three phase input

RCA-5822 is a new water-cooled steel-jacketed mercury-pool-cathode tube of the ignitron type for frequency-changing service in resistance welding. The tube operates on an input frequency of 50 to 60 cycles and provides minimum output frequency at 5 cycles for the welding operation. It requires normal kva. demand in comparison with that required for single-phase welding.

Input is on 3-phase ac. to balance the power load and adapt the welding equipment particularly for aluminum, magnesium and their alloys. Water is circulated through a spiral channel in the jacket wall to provide uniform cooling.

The assembly includes an ignitor suitable for intermittent operation. Overall rigid length is about 14½ inches. Maximum diameter is 7¼ in. including the water connections. Mounting position is vertical with the flexible lead up.

BREVITY—Identify by IEN - 1980 if you write the maker

SWITCH . . Rotating limit design with worm and gear ratio of 60 to 1

Source: CRANE ELECTRIC CO.
1435-39 W. Lake St., Chicago 7, Ill.

For machine control

Riders for "on" and "off" actuation of a sensitive push-button switch mount adjustably on a disc carried by the worm wheel in this new Model R-1000-A rotating limit switch. The switch itself is a standard design, mounts in inverted position under the top of the sheet-metal housing. Connections are made at terminals at the right-hand side. Leads are brought out through a conduit opening. The switch can be specified for desired electrical capacity and current characteristics. Right-hand and left-hand assemblies are obtained by interchanging the position of the worm shaft.

BREVITY—Identify by IEN - 1981 if you write the maker

DICTIONARY . . Of trade names and terms used in chemical industry with composition, use, source

D. Van Nostrand Co.
250 Fourth Ave., New York 3, N. Y.

Some 20,000 special names used in chemical industry are defined in new reference book, "Chemical Trade Names and Commercial Synonyms," list price $5.50. The book distinguishes between trade terms and trade names, lists makers for each trade name, presents their addresses in a separate section. It also gives composition or nature of the material with uses. Alphabetical terms such as DDT are included.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 1982 if you write the maker

ELLIOTT TWIN STRAINERS TYPE "A"

Big strainer baskets need less attention

The extremely large basket straining area—five times the inlet area—greatly reduces pressure drop. Another advantage is the large amount of arrested material which the basket will hold before straining capacity is reduced to the point where cleaning becomes necessary. Even when 30 percent clogged with foreign matter, the effect is barely measurable. Twin Strainers go a long time between cleanings.

Get all the story. Write for the Type A Twin Strainer Bulletin.

SIZES FROM 1"—UP—125 to 250 lb. PRESSURES

A-315

ELLIOTT COMPANY
Accessories Dept., JEANNETTE, PA.
DISTRICT OFFICES IN PRINCIPAL CITIES

BREVITY—Identify by IEN - 1983 if you write the maker

HQ for HP hydraulic pumps

headquarters

The unique Gerotor principle, found only in Gerotor pumps and fluid motors, increases the efficiency of any hydraulic circuit — in your plant or in your product.

Gerotor is headquarters for hydraulic pumps producing pressures up to 1000 p.s.i. continuous duty — in some sizes, up to 1200 p.s.i. continuous, 1500 intermittent.

GEROTOR

GEROTOR MAY CORP.
P.O. Box 86, Baltimore 3, Maryland

BREVITY—Identify by IEN - 1984 if you write the maker

MERCOID AUTOMATIC CONTROLS

THEY ARE USED FOR THE CONTROL OF TEMPERATURE, PRESSURE, LIQUID LEVEL AND MECHANICAL OPERATIONS.

THE MERCURY SWITCH IS A FEATURE IN MERCOID CONTROLS. THE REASON FOR THE MERCURY SWITCH IS THE ADDED SAFETY-BETTER PERFORMANCE AND LONGER CONTROL LIFE-ALL OF WHICH ARE IMPORTANT WHEREVER CONTROLS ARE REQUIRED

WHY CONSIDER LESS WHEN YOU CAN GET SO MUCH MORE

WRITE FOR COMPLETE CATALOG

THE MERCOID CORPORATION ○ 4201 BELMONT AVE., CHICAGO 41, ILL.

BREVITY—Identify by IEN - 1985 if you write the maker

Only $39.50 at your distributor. Prices subject to change.

▼ BREVITY—Identify by IEN - 1986 If you write the maker ▼

ROLLED STEEL PIPE FLANGES

for all types of service

18" I. D. TO 144" O. D. CARBON, ALLOY OR STAINLESS STEEL

Inquiries Invited

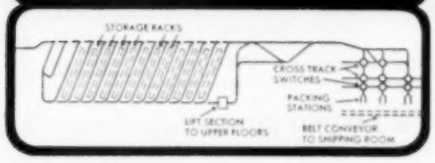
STANDARD STEEL WORKS DIVISION
BURNHAM, PA.

BALDWIN-LIMA-HAMILTON

General Offices: Philadelphia 42, Pa. Offices in Principal Cities

▼ BREVITY—Identify by IEN - 1987 If you write the maker ▼

SYSTEM *speeds* ORDER MAKE-UP



A large Eastern wholesale drug company raised their order make-up department to top efficiency by installing a Louden Monorail System. Such systems are adaptable wherever lots of small articles are made up from diversified stock.

A hand-pushed system operating throughout a multi-story building, the Monorail installation has increased storage capacity to a maximum, while permitting greatest accessibility to the shelving. Truck and floor maintenance has been eliminated, as has damage of goods resulting from collisions.

Movement between floors is accomplished with standard Louden track lift sections.

WRITE FOR FREE BOOK

Case histories of successful Monorail applications in many different types of industries are contained in an illustrated book called, "Economical Material Handling," free on request.

THE LOUDEN MACHINERY COMPANY
5113 S. Superior Ave., Fairfield, Iowa

Louden

OVERHEAD MATERIAL HANDLING

▼ BREVITY—Identify by IEN - 1989 If you write the maker ▼

PRINTING . . Photocopy equipment exposes, develops, delivers damp-dry

Source: AMERICAN PHOTOCOPY EQUIPMENT CO.
2852 N. Clark St., Dept. IN, Chicago 14, Ill.

Sheet can be used as delivered

Auto-Stat trade names new photocopy equipment consisting of a printer, as shown to the left in the illustration, and a motor-driven developing unit with a set of rollers that remove essentially all of the developing chemical as the completed work is delivered. The equipment takes work to 11 in. in width and the printer will handle sheets to 17 in. in length. A second design, not shown in the illustration, combines the printer and developer into a single unit.

Any type of original printed on one or both sides on opaque or translucent paper is inserted into the printer face-to-face with a No. 1 chemically-coated sheet that is sensitive to light. Following an exposure period of 10 sec., the original and the sensitized sheet are removed from the printer. Then the original is set aside to be used again and the exposed sheet is applied with a second sheet, also sensitized, in two adjacent slots in the developing machine. These two sheets come together while both are submerged in the developing liquid held in the base of this unit. They move forward together to issue between the drying rollers from a slot at the rear. They move through this unit in about 8 sec. and upon being delivered are peeled apart. The No. 2 sensitized sheet will then carry a clear reproduction of the original in positive black on white. The No. 1 intermediate sheet can be thrown away or saved as a reverse-reading file copy. The developing machine measures 21 by 8 by 5 inches. It is made of stainless steel and is driven by a small ac. motor.

▼ BREVITY—Identify by IEN - 1990 If you write the maker ▼

HAMMER . . Clip attachment presents a nail for starting blow

Source: AMSCO CO.
51 Center Ave., Dept. IEN, Le Center, Minn.

List price is 50 cents

Third Hand trade names a new steel clip for attachment to the head of a standard hammer as shown in the illustration. The clip mounts a pair of spring fingers that will hold a nail at right angles to the side of the hammer head. A user can reach out, swing the hammer and strike the nail into a desired position. He then can slip the hammer from the nail head and finish setting the nail in the usual manner. The attachment provides additional reach. It makes hand holding of the nail unnecessary for jobs that are within reach.

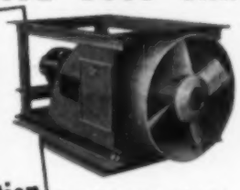
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 1991 If you write the maker ▼

Wing

ELBOW TYPE DUCT FANS

Delivers Large Air Volumes with Low Power Consumption



Complete range of sizes from 10 in. to 60 in.; and from 200 to 85,000 c.f.m.

The Wingfoil Axial Flow Duct Fan, in either elbow type or straight line type, is a compact, economical fan designed to operate against static pressure. The elbow type replaces an elbow in a run of duct, with the motor outside the housing, unaffected by hot or dirty air or gases. Belt or direct drive. Wingfoil "Non-overloading" fan wheel characteristics. Write for bulletin.

L. J. Wing Mfg. Co. 168 Woodland Mills Road Linden, New Jersey

▼ BREVITY—Identify by IEN - 1992 If you write the maker ▼

use **CHAMPION**

AIR HOSE REELS

to increase production and shop safety!

Champion Air Hose Reels put air lines within arms reach of the worker, yet keep hose off the floor to prevent accidents. They can be mounted conveniently on ceilings, walls or floors. They are totally enclosed — free from dust and grime. Inside sheaves prevent kinking — over 30 feet of special spring steel rewind hose at a governed speed. There are 4 stops to a complete circle so that just the needed amount of hose is exposed — hose is extra tough 2 braid for long hard usage. All connections are air-tight, non-leaking. Write TODAY for complete data and a FREE copy of the Champion Manual that contains valuable data on handling compressed air.

CHAMPION PNEUMATIC MACHINERY CO.
844 N. Pleasant Street Princeton, Illinois

AIR HOSE REELS · AIR COMPRESSORS · AIR ACCESSORIES

▼ BREVITY—Identify by IEN - 1993 If you write the maker ▼

TOSS OUT ELEVEN GLOVES

TWELVE different kinds of work gloves, formerly needed for various operations in one large factory, have been replaced by a single type of cotton work glove dip-coated with VINYLITE Brand Resins.

Similar gloves, used in handling nitric acid drums at a military proving ground, were accidentally subjected to acid contact. There was some discoloration, but no penetration and no deterioration.

Hundreds of other users are telling the same story. No matter how tough the job, gloves with coatings of VINYLITE Brand Resins have outlasted all others and given greater protection to the wearer, with resulting increases in efficiency and economy.

Men who handle rough steel sheets, lumber, or concrete blocks, know how durable these gloves are. Welders like their protective qualities. They're strongly resistant to acid and alkali solutions and other chemicals. Their rough surface means a surer grip and longer wear—oil is easily washed off. They're more comfortable—flexible enough for any ordinary glove operation. They can be turned inside out and their cotton linings washed.

Glove-coating is one example of how VINYLITE Resin coatings are being used throughout industry, giving increased protection and longer life to a wide variety of surfaces including metal, concrete, masonry. Formulated for application by dip, brush or spray, VINYLITE Resin coatings may have a big place in your plant or product. Ask us about your specific needs and send for a list of suppliers of gloves coated with VINYLITE Brand Resins. Write Dept. LQ-5.

Data courtesy of Arcadia Mfg. Co., 1081 South Eton Road, Birmingham, Mich.

Visit BAKELITE'S Exhibit, Booth 314-324, National Plastics Exposition, Philadelphia, March 11-14.

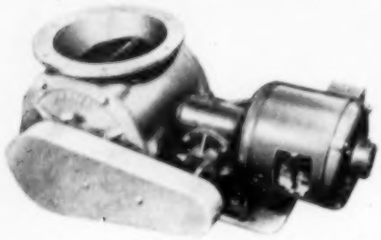
Vinylite BRAND **RESINS**

TRADE MARK

BAKELITE COMPANY
A Division of Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, N. Y.

BREVITY—Identify by IEN - 1995 if you write the maker

PRATER ROTARY AIRLOCK FEEDER



FEEDS powdered and granular products into conveying line—quickly and accurately!
STOPS air leakage at the discharge of dust collectors or other pneumatic equipment!
PRE-DETERMINES rate of feeding material into mixers, blenders, hoppers, etc.
RECOMMENDED in the processing of: Ball Clay, China Clay, Diatomaceous Earth, Kaolin, Grains and Feeds, Graphite, Limestone, Whey Powder, Calcium Carbonate, Sulphur, Fullers Earth, Ochre, Volcanic Ash, Bronze Powder, Bauxite, Carbon Black, Salt, Barium Carbonate, Marl, Sugar, Cocoa, Gypsum, Silica, Manganese Sulphate, Phenolic Molding Compound.

Send for new illustrated bulletin.

PRATER PRATER PULVERIZER COMPANY
1536 So. 55th Court • Chicago 50, Ill.

BREVITY—Identify by IEN - 1996 if you write the maker

with AURAND CLEANING TOOLS

Clean off accumulations of scale, paint, rust or any foreign matter from any hard surface with Aurand Cleaning Tools. Toothed cutting wheels, loose pinioned on rotating head chip away accumulations at high speed. Positive depth shoe prevents cutting into permanent surface and assures uniform cleaning of entire area.

Two sizes in electric or pneumatic models.

FOR FULL DETAILS, WRITE DEPT. 649

AURAND MFG. & EQUIP. CO.
2043 Colerain Avenue • CINCINNATI, OHIO

BREVITY—Identify by IEN - 1997 if you write the maker

How you can SOLVE your TOUGHEST Materials Handling Problems

It's Free!

This New Bulletin gives complete details on the revolutionary Lull Traveloader . . . the amazingly versatile . . . unbelievably flexible machine that makes one-man, one-machine jobs out of your worst materials-handling headaches!

Write for Your Copy, TODAY!

HELP ME streamline my materials-handling by sending me the New Traveloader Bulletin.

Name _____
Firm _____
Address _____
City _____ State _____

LULL MANUFACTURING COMPANY
3612 East 44th St., Minneapolis 6, Minn.

BREVITY—Identify by IEN - 1998 if you write the maker

DUST COLLECTING . . Cloth bag unit to recover dust and fine powders

Source: PANGBORN CORP.
230 Pangborn Blvd., Hagerstown, Md.

For specified use

Dust-laden air enters this new collector at a point just under its grid floor, the air losing velocity upon entering so heavy particles fall immediately to the bottom hoppers. The air and remaining dust rise through the grid into filter bags sealed over each opening and suspended from above. The air passes through the bags on its way to the outlet at the top of the collector. Dust captured by the bags is removed by shutting down the air-handling blower and starting a shaker motor. The dust then falls through the grid openings into the hoppers from where it is discharged upon opening a valve at the bottom of each hopper.

Overall length ranges from 5 to 40 ft. and include 1 to 6 hoppers. Filter-cloth area ranges from 1,360 to 10,880 square feet. The equipment is intended to collect dust such as carbon black, cork, fine wood, graphite, pigments, lime, soap, fine tobacco, metal oxide, similar materials.

BREVITY—Identify by IEN - 1999 if you write the maker

GAGE . . Titanium carbide ring unit for threads, sizes from 1/4 to 6 inches

Source: PIPE MACHINERY CO.
922 E. 70th St., Cleveland 3, Ohio

Each is registered

The company announces general availability of a new line of titanium-carbide solid thread ring gages following a test period of 4 years in which it has not been possible to detect any service wear. Each are identified by a serial number registered by the company and a permanent record is maintained on each element of the gage to include thread lead, angle, diameter and hardness. The special wear-check plug, provided with each ring, is double-end design with one end slightly larger than the other to detect any possible wear.

BREVITY—Identify by IEN - 2000 if you write the maker

MANUFACTURING . . Textbook on methods includes descriptions based on the equipment employed

John Wiley & Sons Inc.
440 Fourth Ave., New York 16, N.Y.

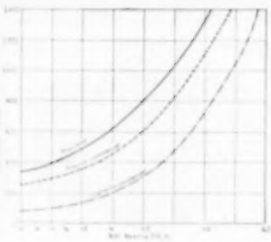
How to make a product is answered by a description on available equipment and methods in the textbook "Manufacturing Processes" by Begeman. New Third Edition of 616 pages, list price $6, brings the information up to date. First half of the book covers foundry practice, heat treating, welding, hot forming of metals, cold forming, powder metallurgy, plastic molding. Second half describes metal-working machines and tools with inspection equipment.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2001 if you write the maker

A PAID NEWS ADVERTISEMENT BY THE SCHATZ MANUFACTURING CO.

Schatz "Commercial" Ball Bearings can reduce anti-friction bearing costs 35 to 85%



Relative costs of precision and "Commercial" Ball Bearings: In very small sizes, the cost of precision bearings **increases** as the bore decreases, due to the difficulty in maintaining close tolerances. The cost of "Commercials" **decreases** in almost direct proportion to the size.

Expensive precision bearings with their extremely close tolerances are often unnecessary in certain applications.

Where the operating conditions of these applications are within the load and speed limits of Schatz "Commercial" Ball Bearings, you can obtain the required anti-friction bearing performance—at 2/3 to 1/10 the cost of precision bearings.

The savings possible in such instances are illustrated in the above graph.

Write for your copy of "Construction and Characteristics of Low-Cost Ball Bearings." It tells how to select "Commercial" Ball Bearings for various speed and load requirements, gives the classifications of standard types for radial and thrust loads, and examples of the modificiations that can be made for special design, assembly or operating conditions. Ask for Catalog No. 11, too. It gives complete data for the whole "Commercial" line.

THE SCHATZ MANUFACTURING COMPANY
6750 Fairview Avenue, Poughkeepsie, N. Y.

BREVITY—Identify by IEN - 2002 if you write the maker

FREE PROOF

In Your Own Plant!

Yours to Use FREE for 3 Days

To Prove You Can Add Man-Hours Without Increasing Workload of Personnel

All industry is using this service-proved Electric Truck . . . a brawny midget of power that moves up to 6000 pounds with amazing "touch-of-the-finger" ease. It's saving industry millions of dollars every year, offers many features which mean better performance, less maintenance, lower operating costs . . . extra savings in smooth, trouble-free material handling.

But don't take our word for it! Put "101" Transporter to the test . . . put it over the severest hauling hurdles *in your own plant, absolutely free and without obligation!* Write today and we'll arrange delivery for your 3 days' trial. First come, first served. No obligation to buy . . no strings attached.

"101" Transporter — A PRODUCT BY AUTOMATIC

Automatic
109 West 87th Street, Dept. B-2, Chicago 20, Illinois

BREVITY—Identify by IEN - 2003 if you write the maker

Speedex Automatic WIRE STRIPPER

MODEL No. 744-I

★ ONE HAND OPERATION
★ LIGHT WEIGHT
★ SIMPLE TO USE

A heavy duty, automatic wire stripper with a delayed action release which prevents wires from being crushed. Strips wire sizes No. 8 to 30 . . . weighs but 12 ounces. Standard models also available.

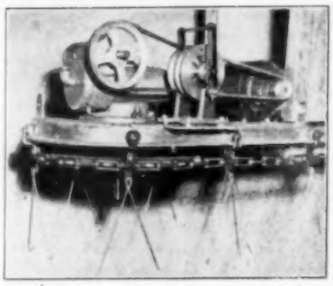
NET PRICE ONLY $4.95 ($8.25 LIST)

SEE YOUR DISTRIBUTOR OR WRITE FOR LITERATURE AND COMPLETE INFORMATION.

WOOD SPECIALTY *Manufacturing Co.*
909 Taylor Avenue, Rockford, Illinois

BREVITY—Identify by IEN - 2004 if you write the maker

KEYSTONE JUNIOR CONVEYORS



100% prefitted, bolted joints. No track welding, cutting or fitting required for installation. Easily installed. Low first cost. Overhead or floor supported. Load capacity 80# per trolley. Rivetless drop forged chain 2" pitch. Ball bearing grease packed wheels with drop forged or formed steel trolley brackets.

KEYSTONE JUNIOR CONVEYORS are identical to their big brothers—the 348 and 458 which are the accepted standard throughout the world. The Keystone Junior picks up where the 348 leaves off. Handling loads up to 80# per trolley or total live loads up to 15,000# with a single caterpillar or sprocket drive and where necessary using synchronized multiple drives. It is a little giant. Minimum vertical turns 2'-6" radius, minimum horizontal turns 9" diameter. Turning hooks available for use in spray booths, ovens, etc. Conveyor speeds from 3 I.P.M. to 80 F.P.M. available.

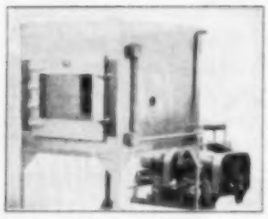
FOR THE CONVEYOR THAT WILL GIVE MAXIMUM ECONOMY AND FLEXIBILITY AT LOW FIRST COST

WRITE FOR BULLETIN #511

KEYSTONE CONVEYOR COMPANY
21750 West 8 Mile Road Detroit 19, Mich.

▼ BREVITY—Identify by IEN - 2005 If you write the maker ▼

IDEA FOR YOU



—If you want to test, treat, season, condition or experiment between — 165 deg. F. and + 200 deg. F.

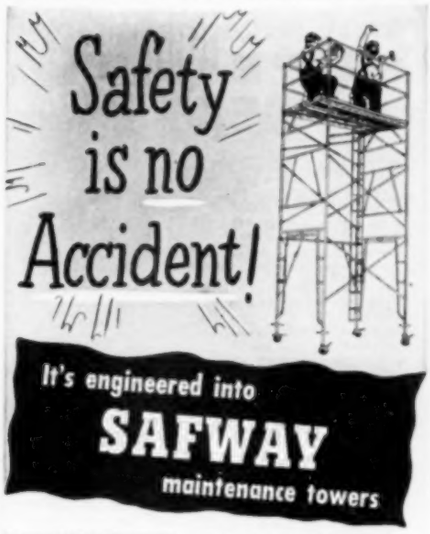
Let us design and build a Webber temperature chamber to fit your requirements.

We have made hundreds of them for leading manufacturers.

Send for 4-page bulletin

WEBBER APPLIANCE CO.
2752 Madison Ave. • Indianapolis 3, Ind.

▼ BREVITY—Identify by IEN - 2006 If you write the maker ▼



Only Master Welders work on SAFWAY Equipment
Interchangeable parts constructed by safe, strong, lifetime welding of high carbon steel tubing.

All SAFWAY Equipment Treated with Rust Inhibitor
Maintains accurate fit of parts and fasteners to assure safe, rigid maintenance towers.

Enamel is Baked on All Surfaces, Inside and Out
Improves appearance of equipment—helps insure lasting fit of parts and long, safe life.

All SAFWAY Equipment is Engineered to Last
With only routine care, Safway equipment will deliver a lifetime of safe, efficient service.

Write for Free Bulletin IEN-252

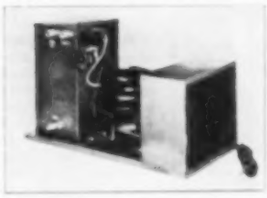
RENTED and SOLD by distributors everywhere

SAFWAY STEEL PRODUCTS INCORPORATED
6228 West State St. MILWAUKEE 13, WIS.
Manufacturers of Tubular Steel Scaffolding and Equipment

▼ BREVITY—Identify by IEN - 2008 If you write the maker ▼

COOLING . . Refrigerated equipment for water, light oils, 5 to 17 gph.

Source: TEMPRITE PRODUCTS CORP.
P. O. Box 72-IE, Birmingham, Mich.



Good for replacement use

Water is cooled for delivery to a drinking fountain or for use in light-duty processing operations by this new Remote Type refrigerated cooling equipment. It is available in three sizes of stainless-steel heat exchange and storage tank to hold 3, 5 and 10 gal. of water or light oil, certain chemicals, alcohol. Overall dimensions range from 24½ to 31 in. in length, 12 to 13 in. in width, 12 to 16 in. in height. Cooling capacity is about 5 to 17 gph. based on 70-deg. liquid inlet and room temperature and 50 deg. F. at the liquid outlet.

Each assembly includes a hermetically-sealed air-cooled condenser and motor-driven compressor for operation on 110-volt 60-cycle ac. The storage tank is insulated. The assembly is approved by Underwriters' Laboratories.

▼ BREVITY—Identify by IEN - 2009 If you write the maker ▼

CLEANING . . Liquid detergent for floors, walls and general cleaning

Source: HYSAN PRODUCTS CO.
930-34 W. 38th Place, Chicago 3, Ill.

Free sample upon request

VIP trade names a new liquid combination of soap and a deodorizing disinfectant for dilution with water in a 1 to 40 solution. Application results in removal of old film and accumulated dirt, killing germs and fungi and dissipating odor in one application. Packaging is in 1, 5 and 55-gal. containers with list price at $3 per gallon based on the 5-gal. unit. The solution can be used on any surface without danger of marking it. It will clean a floor to prepare it for waxing. Vigorous rubbing is not required in application.

▼ BREVITY—Identify by IEN - 2010 If you write the maker ▼

SIGNALING . . Electronic equipment rings a bell when fire breaks out

Source: HEAT-TIMER CORP.
520 Broadway, 6th Floor, New York 12, N. Y.

Fire Chief is a new assembly of ten fire-sensitive elements in a 100-ft. length of wire, a transformer and extension cord to plug into a 110-volt circuit. Electronic equipment picks up a signal from the sensitive element and amplifies it to ring a bell, mounted on the electronic assembly housing. The equipment is suited to monitor an area that can be covered by the 100-ft. length of wire. List price is $12.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

▼ BREVITY—Identify by IEN - 2011 If you write the maker ▼

NEW **DIXIE** PROCESS GRINDERS

for **More Profit More Savings More Quality** *in every grinding operation*

The revolutionary DIXIE method of "super-cool" grinding, precision engineered and manufactured means victory in the battle of production against man-hours. Grinds anything grindable, from feathers to fire bricks.

Write today on your letterhead for more details of the DIXIE Process Grinder.

JOHN J. WOODS & SONS
320 Board of Trade Bldg., KANSAS CITY 6, MO.

▼ BREVITY—Identify by IEN - 2012 If you write the maker ▼

to clean conveyor belts!

Multiple-blade S-A SPRING TYPE CONVEYOR BELT CLEANER removes every particle of wet or dry material from moving belt leaving surface practically dry and clean. Blade overlap prevents passage of dirt or slime . . . blades climb freely over belt splice. Cleaner installs easily on any belt conveyor — mounted on return run just back of discharge pulley. It has no moving parts — no power is required. Hand lever permits ready adjustment of wiper blade pressure against belt.

Write today for complete data . . . request copy of Belt Cleaner Bulletin.

1901-1951
50 years experience with bulk handling
STEPHEN S-ADAMSON MFG. CO.
23 Ridgeway Ave., Aurora, Ill. Los Angeles, Calif. • Belleville, Ont.
Designers and Manufacturers of all Types of Bulk Materials Handling Equipment

▼ BREVITY—Identify by IEN - 2013 If you write the maker ▼

Now—revised and enlarged

. . . this free booklet for engineers, draftsmen

. . . here are all the facts on Kodagraph Reproduction Materials (which can be processed by you or your local blueprinter) . . . and the many ways they can cut your drafting-room and print-making costs.

"Modern Drawing and Document Reproduction" is concisely written, well illustrated—well worth having. It gives complete information on—

- **Kodagraph Autopositive Papers, Cloth, and Film,** which produce positive photographic intermediates directly—without a negative step; *which* can be handled in ordinary room light—exposed in your direct-process or blueprint machine or vacuum frame . . . and processed in standard photographic solutions.
- **Kodagraph Repro-Negative Paper,** which produces positive photographic intermediates directly from blueprints, Van Dykes, other negative originals. Exposed, processed same as "Autopositive" materials.
- **Kodagraph Contact Papers and Cloth,** which give remarkable results . . . and simplify print-making in all types of contact photocopying equipment.
- **Kodagraph Projection Papers and Cloth,** which enable you to obtain—with your enlarger or process camera—sparkling reproductions from your microfilm or other reduced-scale negatives.

Write today for your free copy of "Modern Drawing and Document Reproduction."

Kodagraph Reproduction Materials

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak TRADE-MARK

BREVITY—Identify by IEN - 2015 if you write the maker

Your Best Buy in Burs!

S.S.WHITE BURS cut fast, clean and cool and give long-lasting economical service. Cutting edges are keen — and stay sharp. There's a full selection of sizes and shapes of chromed, and carbide burs for cutting brass, steel, wood, hard rubber, bone or any other material that can be bored or milled by sharp-edged hardened steel tools.

WRITE TODAY for 50-page Catalog T-51

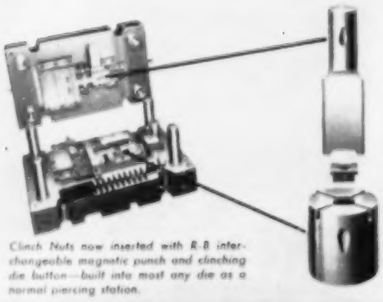
It completely describes the full line of S.S. White flexible shaft tools and other industrial products.

THE S.S.White INDUSTRIAL DIVISION
DENTAL MFG. CO. Dept. H, 10 East 40th St. NEW YORK 16, N. Y.

WESTERN DISTRICT OFFICE: Times Bldg., Long Beach, Calif.

BREVITY—Identify by IEN - 2016 if you write the maker

tighten up on fastening costs:



Clinch Nuts now inserted with R-B interchangeable magnetic punch and clinching die button—built into most any die as a normal piercing station.

NEW R-B TOOLING ELIMINATES EXTRA OPERATIONS in CLINCH NUT ASSEMBLY

Now you can insert Clinch Nuts in your part as you make it: no other operations are necessary. Savings in assembly time and tooling are created by the new R-B interchangeable magnetic punch and clinching die button, which become a normal piercing station easily built into any piercing die. Just one stroke of the press pierces and clinches a nut.

Clinch Nuts are fed automatically to the piercing station from a hopper and flexible feed chute adjacent to the press. The nut does the piercing; the slug falls through the die button as lips on the die button clinch the nut to the part.

This new R-B tooling also makes Clinch Nuts cost-saving substitutes for welded nuts and similar fasteners. Send today for the full story that shows the way to lower fastening costs. **Allied Products Corporation, Richard Brothers Division.**

Get the Whole Story

ALLIED PRODUCTS CORPORATION
RICHARD BROTHERS DIVISION
Dept. 60 • 12615 Burt Road • Detroit 23, Mich.

Please send me Clinch Nut-tooling literature.

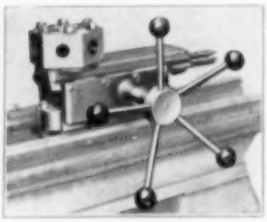
NAME _____ TITLE _____
COMPANY _____
ADDRESS _____

Also Produced in Allied's Four Plants . . .
HARDENED AND PRECISION GROUND PARTS • STANDARD CAP SCREWS • SPECIAL COLD FORGED PARTS • SHEET METAL DIES • ALLITE DIES CAST OF ZINC ALLOY • JIGS • FIXTURES

BREVITY—Identify by IEN - 2018 if you write the maker

LATHE ATTACHMENT . . Bed turret for lathe swinging 9 to 12 inches

Source: GLOBE HEAT-SEAL INC.
3384 Robertson Blvd., Los Angeles 34, Calif.



For any standard lathe

New turret clamps to a lathe bed to provide six tool positions and a working stroke of 5¼ inches. Total slide travel is 6 inches. The turret faces permit boring standard 1-in. tool holes. Larger sizes, to 1¼ in., can be employed without weakening the walls. Tool clearance over the ram is 3½ in. for 9 and 10-in. lathes. It is 4 in. on 11 and 12-in. lathe models.

The turret is guided by a pilot that engages a mating bearing in the slide. It indexes upon operation of the capstan. It can be positioned for free rotation in either direction when the design is specified for this purpose. Length rods at the rear can be set to limit the stroke for each turret face.

BREVITY—Identify by IEN - 2019 if you write the maker

ELECTRONIC TUBE . . Thyratron for negative or positive control

Source: SHELDON ELECTRIC CO.
74-78 Coit St., Irvington 11, N. J.

To "trigger" a circuit

Model MT-1530 is a new mercury-filled grid-control tube. It has peak anode rating of 15,000 volts either forward or inverse and features a shielded cathode structure. The tube is built to withstand vibration normally encountered in industrial applications. It carries a 1,000 hr. guarantee.

Overall dimensions are 4½ in. in greatest diameter, 13 in. in height. Intended mounting is in vertical position. The cathode filament rates 5 volts and 30 amperes. Plate current is average at 15 amp., maximum at 100 amperes. Surge rating on maximum duration of 0.1 sec. is 1,500 amperes.

BREVITY—Identify by IEN - 2020 if you write the maker

REGISTER . . Of British manufacturers lists products, makers, addresses, trade names, services

Iliffe & Sons Ltd.
Dorset House, Stamford St., London, S. E. 1, England

Twenty-fourth edition is announced for the "FBI Register of British Manufacturers," a book of 882 pages that lists at about $9 post paid. This 1951-52 issue is made up of seven sections including a classified buyers' guide to products and services of some 6,000 member firms under some 5,000 headings, a list of these firms with products and branches, a list of brands and trade names, trade marks, trade associations, and a collection of advertisements.

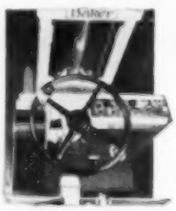
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2021 if you write the maker

If you can drive an auto— you can drive the **NEW BAKER FORK TRUCKS!**

Simplicity of operation means no training period for new drivers. Ease of handling means more work per day. Increased visibility means greater safety and less damage to material handled. Happier operators mean improved employee relations.

- Easier Steering
- Greater Comfort and Operating Convenience
- Greater Visibility, Less Operator Fatigue, More Efficient Operation, Greater Safety
- Simple to Operate
- Easy to Service and Maintain



The New BAKER Fork Trucks can be serviced in a fraction of the time required for trucks of less advanced design. Compare the following times with the experience of your maintenance department:

Remove Power Axle	60 minutes
Remove Trailing Axle	20 minutes
Reline Brakes	30 minutes

Yours for the Asking!

16-page picture story manual "CARE and MAINTENANCE of INDUSTRIAL TRUCKS." Write for your copy today.

BAKER INDUSTRIAL TRUCK DIVISION of The Baker-Raulang Company
1226 West 80th Street, Cleveland 2, Ohio
In Canada: Railway and Power Engineering Corp., Ltd.

Baker INDUSTRIAL TRUCKS

BREVITY—Identify by IEN - 2022 if you write the maker

Brand New!

• no tool marks, no cut-off burrs • high quality at low cost to meet every requirement • die cast, not turned! • non-ferrous, rustproof zinc alloy • attractive, durable, dependable

Class 2 threads tapped square with face of nut. All commercial finishes in popular thread sizes. SUBSTANTIAL SAVINGS! Specials to order.

Write today for bulletin, samples, prices.

GRIES REPRODUCER CORP.
797 E. 132nd St., New York 54 • Phone: MO 5-7400

BREVITY—Identify by IEN - 2023 if you write the maker

Saves Time on light and HEAVY Work

250-Watt WELLER SOLDERING GUN

You need no other soldering tool. 5-second heating saves time on every job. Heat is instantly on . . . instantly off with trigger-switch control. Power-and-hours saved pay for your Weller Gun in a few months.

- **TRIGGER-SWITCH CONTROL**—No need to unplug gun.
- **5-SECOND HEATING**—No waiting.
- **WELLERTIP**—Rigid and braced for heavy duty.
- **SOLDERLITE**—Prefocused spotlight.
- **LONGER REACH**—Gets into tightest spots.
- **DUAL HEAT**—Single heat 200 watts; dual heat 200/250 watts; 120 volts, 60 cycles.

Order your 250-watt Weller Soldering Gun from your distributor today, or write for bulletin direct.

WELLER ELECTRIC CORP.
823 Packer Street, Easton, Pa.

SOLDERING GUIDE. Get your new pocket copy of "Soldering Tips"—revised, up-to-date, fully illustrated 20-page booklet of practical soldering suggestions. Price 10c at your distributor, or order direct.

BREVITY—Identify by IEN - 2024 if you write the maker

Bench mounted HS4 with felt bob on plastic mold polishing.

Your phone will withstand the roughest use for more than a million calls. That record is due in part to a perfect molded surface free from pits and crevices where failures start. Haskins Flexible Shaft equipment polishes these precision molds to mirror-like perfection . . . assures constant, precise molding. Whatever your requirements for polishing, sanding, filing or grinding, you'll find the right Haskins machine and attachments with a proved record of fast, efficient performance. Your choice of mounting—bench, pedestal or suspended. Write today for full information. R. G. Haskins, 601 S. Washtenaw, Chicago 12, Ill.

haskins HASKINS
FLEXIBLE SHAFT EQUIPMENT

BREVITY—Identify by IEN-2025 if you write the maker

THRIFTMASTER
Fixed Center
DRILLHEADS

setting the Defense pace with Outstanding

PERFORMANCE

- Full Ball Bearing Construction
- Fully hardened Chrom-Moly Steel Gears, Spindles and Drives
- Built to Precision Standards

Dependable Delivery Promises

Also

Adjustable Drillheads of Standard Universal Joint and Gear Driven Eccentric Type Automatic Reverse Tapper-Drill Units

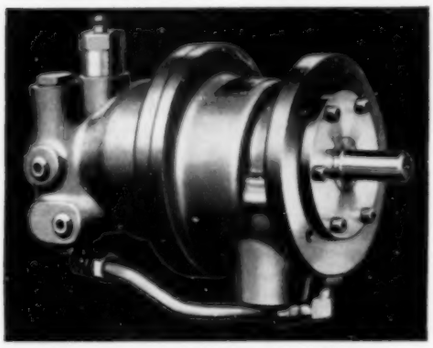
WRITE FOR THE THRIFTMASTER CATALOG

Subsidiary of Thomson Industries, Inc.

THRIFTMASTER PRODUCTS CORPORATION
1040 N. Plum St., Lancaster, Pa.
also Makers of
DORMAN AUTOMATIC REVERSE TAPPERS

BREVITY—Identify by IEN-2026 if you write the maker

New Oilgear Constant Delivery Axial Piston Pumps (Generators)



New... yet records show these are the RIGHT pumps for continuous heavy-duty service

The Oilgear Company announces three new constant delivery axial piston pumps for pressures up to 3000 and 5000 psi, speeds up to 1800 r.p.m. These compact units feature patented balanced flat valves, patented simple one-piece rolling pistons, patented quiet reverse flow high pressure and supercharging relief valves and 100% supercharge volume. Oilgear's exclusive flat valves provide high volumetric efficiency and assure an adequate oil film on working surfaces; their *RIGHT* design for exceptional durability has been proven on over 100,000 installations. For years, several million of Oilgear's exclusive rolling pistons have demonstrated they are the *RIGHT* design for heavy-duty service. These units are *RIGHT* for heavy-duty pushing, pulling, lifting, lowering, maintaining high static loads as on clamping cylinders, for service in iron, steel, metal working, plastic, automotive, rubber, printing, lumber and textile industries. These pumps are:

RIGHT—for your heavy-duty applications.
RIGHT—for your high static load requirements.
RIGHT—for your precise hold-down jobs.
RIGHT—for long, trouble-free service.
RIGHT—for quiet operation under varying loads.

Write for Illustrated Bulletin 4660I

THE OILGEAR COMPANY, 1567 W. Pierce St., Milwaukee 4, Wis.

OILGEAR *Fluid Power*

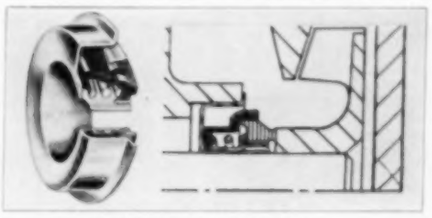
Pumps, Motors, Transmissions

THE RIGHT EQUIPMENT

BREVITY—Identify by IEN-2028 if you write the maker

SEALING . . Self-contained assembly prevents axial leakage along a shaft

Source: CRANE PACKING CO.
1815 Cuyler Ave., Dept. E-27, Chicago 13, Ill.



Rubber minimizes rotating friction

Corrosive fluids are prevented from leaking axially along a rotating shaft by application of this new Type 11-A John Crane seal. The sealing member itself is made of synthetic rubber. It encloses its backing spring so the spring cannot come in contact with the fluid and need not be made of corrosion-resistant metal. The flanged container rides free of the shaft in non-rotating position. The design permits application on shafts ranging from ⅜ to ⅝ in. in diameter in a sealed assembly with only one set of outside dimensions.

Shaft speed can be as high as 6,000 rpm. Pressure is to 50 lb. and temperature is to 212 deg. F. The assembly presses into position. A metal retainer prevents damaging stress from being imposed on the rubber member.

BREVITY—Identify by IEN-2029 if you write the maker

BUILDING . . Translucent sheet for windows, skylights, partitions

Source: CORRULUX CORP.
408-12 Holmes Road, Dept. X, Houston 4, Texas

No more broken windows

Duralux trade names a new fiber-glass reinforced plastic sheet developed by the company as a companion product to its translucent Corrulux for use in windows, skylights, partitions and for decorative purposes. The new material rates 75 to 90 per cent transmission of incident light as compared with 55 to 70 per cent for the Corrulux sheet.

Strength in tension, flexure and impact are superior to glass or to unreinforced clear plastic. The sheet is not subject to attack by mildew, humidity, rot, most industrial fumes, and extremes of heat or cold. It is not subject to weathering and will not crack, craze, warp or discolor. It requires no protective treatment or refinishing, can be worked with ordinary tools and secured by nails, bolts or screws.

Corrugated and flat panels to 12 ft. in length conform in width and in corrugations to standard roofing, siding and decorative sheets. They are available in a Max-Lite color for maximum daylight or in blue and green tints. They also can be specified untinted.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN-2030 if you write the maker

Will You Have Enough GAS this Winter?

THIS OVEN DESIGNED FOR GAS . . BUT IT'S FIRED WITH OIL VAPOFIER

The S.O.S. Company, in Chicago, has insured production against losses due to seasonal gas curtailment by installing Vapofier as gas standby. Change-over to and from gas is made without loss of flame at the burners in a matter of seconds. The same piping, burners, automatic controls and safety devices are utilized.

Capacities from 70,000 to 4,000,000 B.T.U.'s per hour

Should your processing be annealing, galvanizing, heat treating, glass manufacturing, industrial drying, paint, core or bread baking, there's a Vapofier to fit your needs.

Make your own GAS

Do away with Gas shortages this winter. Send for FREE booklet "Make Your Own Gas with Vapofier."

VAPOFIER CORP., 10326 S. Throop St., Chicago 43, Ill.

BREVITY—Identify by IEN-2031 if you write the maker

Users Tell Our Story Best!

163 ORDERS FROM 3 CUSTOMERS ALONE...TOTALED 1,421,402 LBS.

SPEED PATCH

WORLD'S FINEST, FASTEST, FLOOR FIXER!

TAKES ONLY ONE MINUTE PER SQUARE FOOT!

Think of it... just 3 customers purchased almost 1½ million lbs. of Speed Patch. And more orders are coming from them regularly. They have ordered loads of other Rock-Tred products as well. Must be good. Let their experience be your guide. Find out how Speed Patch can make your floors pay off in cash. Write today!

ROCK-TRED Corporation
Manufacturers of a Complete Line of Running Maintenance Materials
7440-7450 North St. Louis Avenue • Skokie, Illinois
In Canada: Rock-Tred Corporation (Canada) Limited, Toronto 3

BREVITY—Identify by IEN-2032 if you write the maker

"FLATWEAVE" SLINGS

Cut materials handling costs with Roebling "Flatweaves"

"FLATWEAVE" SLINGS are tops! Their broad, flat-bearing surface prolongs sling life. "Flatweaves" speed up operations because they're extra flexible, kink-resistant, and easy to handle.

Write for free copy of the "Roebling Sling Data Book." It gives the whole story about "Flatweaves", plus money-saving facts on the full Roebling line... a sling for top efficiency and economy on every job. John A. Roebling's Sons Company, Trenton 2, New Jersey.

ROEBLING

BREVITY—Identify by IEN-2033 if you write the maker

There's a **NORMA-HOFFMANN** *PRECISION BEARING designed to Exactly Fit the Application*

No matter what your bearing requirements... for electric motors, machine tools, household appliances, etc... Norma-Hoffmann can give you the *right* bearing to meet *your* particular application. These precision bearings will improve your product performance with efficient friction-free operation. Their ability to operate dependably under the toughest going means you have less maintenance problems. They are available in a wide range of types and sizes from ½" to 22½" bore, also metric. Write for catalog.

NORMA-HOFFMANN *Precision* **BEARINGS** BALL • ROLLER • THRUST

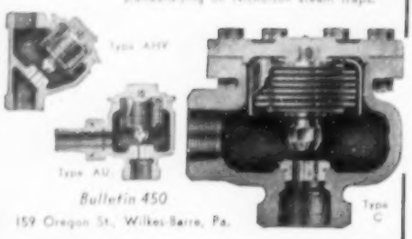
NORMA-HOFFMANN BEARINGS CORP., Stamford, Conn.

BREVITY—Identify by IEN - 2034 If you write the maker

NICHOLSON STEAM TRAPS

DOUBLE CAPACITY OF THESE DRYERS

That the higher, steadier heat effected by Nicholson thermostatic traps makes them ideal for drying operations was again demonstrated by a large textile mill. Replacing mechanical traps on 20 drying cans, Nicholsons doubled their capacity. Though operating on 16 lbs. pressure against 20 previously. 5 types for every use; size 1/4" to 2", press. to 225 lbs. See why leading plants are increasingly standardizing on Nicholson steam traps.



Bulletin 450

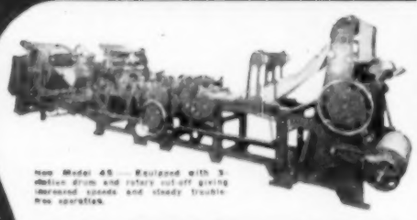
159 Oregon St., Wilkes-Barre, Pa.

W. H. NICHOLSON & CO.

TRAPS · VALVES · FLOATS

BREVITY—Identify by IEN - 2035 If you write the maker

60 years of dependable service



New Model 45 — Equipped with 3-station drum and rotary cut-off giving increased speeds and steady trouble free operation.

POTDEVIN

SATCHEL-BOTTOM

PAPER BAG MACHINES

Makes a wide range of bags from 5 lb. sacks to huge supermarket carrier bags. Has adjustable former to vary sack widths, trade-mark imprinting unit, 2 hole punch and scoring device for string handles, roll lifting mechanism for easier loading.

Can be directly connected to a Potdevin multi-color aniline press. Compensator and electric eye can be added for preprinted papers as well as liner for two-wall (duplex) bags.

Literature on request.

POTDEVIN MACHINE CO.

1213 38th Street, Brooklyn 18, N. Y.

Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling.

BREVITY—Identify by IEN - 2036 If you write the maker

BRONZE?

COPPER?

Aluminum?

brass?

stainless?

MONEL?

which alloy for your fastenings?

Harper knows because Harper specializes in them ALL . . . and whether your problem is corrosion, abrasion, heat, stress, appearance or a combination of these, Harper has met it before through many years of service to all industries. Over 7,000 items . . . bolts, screws, nuts, rivets and accessories . . . in stock ready for delivery from warehouses and distributors coast to coast.

Send for new Price List and Stock Book

The H. M. Harper Co.
8211 Lehigh Ave., Morton Grove, Ill.
Rush my copy of new Price List and Stock Book.

Name .....
Address .....
City ..... State .....

HARPER

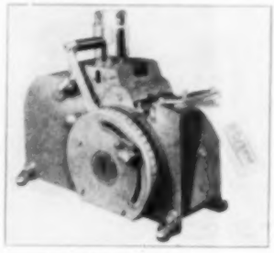
EVERLASTING FASTENINGS

Specialists in ALL non-corrosive metals

BREVITY—Identify by IEN - 2037 If you write the maker

PACKAGING . . Adhesive tape dispenser measures, moistens and code prints

Source: BETTER PACKAGES INC.
Box 24, Shelton, Conn.



Stroke length to 36 inches

CodeTaper No. 120 mounts a new built-in printing attachment on the Model-120 Counterboy adhesive-tape dispenser. The attachment employs changeable rubber type to print the length of the tape as it is measured, moistened and presented ready to tear off. The attachment can be adjusted to print 1½, 2 or 2½-in. widths employing the rubber type or a printing mat to make the desired imprint.

The printing can be done in one color or in any combination of six. The printed matter can identify contents, the individual who did the packing or the inspector. It can date production, include a date limiting use of perishables.

BREVITY—Identify by IEN - 2038 If you write the maker

PAPER PUNCH . . Hand operated also applies hole reinforcing tape

Source: STATIONERS SUPPLY CORP.
82 Wall St., 9th Floor, New York 5, N. Y.

Two-hole punch, $14.50

Two holes are punched in a sheet to be inserted in a binder by application of this new Target combination punching and reinforcing tool. At the same time an adhesive reinforcing tape is applied and the holes are punched through it. The tape feeds from reels at the sides of the tool. The feed action can be locked out so only the holes are punched if the reinforcing is not required. Additional rolls of tape are packaged six to an air-tight container at a list price of 75 cents per roll. They can be specified with the tool.

BREVITY—Identify by IEN - 2039 If you write the maker

ENGINEERING . . Opportunities offered summarized in booklet for high school students

National Society of Professional Engineers
1119-23 15th St. N. W., Washington 5, D. C.

Suggestions on engineering as a career are addressed to high school students in new 8-page pocket booklet, "Engineering—A Career of Opportunity." It tells about the appeal of engineering, basic talents required, economics of an engineering career, opportunities for service, other publications.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

BREVITY—Identify by IEN - 2040 If you write the maker

The Answer to Industrial DERMATITIS *is just as simple as this . . .*

. . . in some of the even larger plants, they have found that by using only two types of Skin-Cote, they get complete protection and have reduced dermatitis to one of their minor hazards . . . to a problem of simply seeing that the employees use it. To encourage the use of Skin-Cote, more and more companies are supplying it in individual jars rather than issuing it from *bulk containers in the tool crib. . . . Send for eight-page catalog and complete information—you will find that the answer to Industrial Dermatitis can be just as simple as this.

*Available in individual jars or bulk containers.

The BOYER-CAMPBELLL Company
6540 St. Antoine Street Detroit 2, Michigan

BREVITY—Identify by IEN - 2041 If you write the maker

ENAMELSTRIP

STEEL · ALUMINUM · BRASS · PRE-FINISHED COLOR COIL

gives BRIGHT STAR BATTERIES the

+ of improved production

− the costs of finishing

Bright Star's use of pre-colored metal coil assures a good finish before fabricating. Enamelstrip's exclusive process offers a flexible color coating which withstands the stresses of drawing, bending and forming without cracking or peeling. Costly, time-consuming finishing operations are entirely eliminated.

ENAMELSTRIP in continuous-feed coil coated and slit to specifications in any metal, any finish.

WRITE TODAY FOR DETAILED COLOR BULLETIN.

National Sales Representatives:

THE COATED COIL CORPORATION

511 West 30th Street, New York 1 • LOngacre 5-3161

BREVITY—Identify by IEN - 2042 If you write the maker

Clebar

the stop watch of *split second accuracy*

Decimal Timer for Time Study, minute divided into hundredths, side slide starts and stops hands, fly-back from crown, 7 jewels, non-magnetic, 30 minute register. SNAP-BACK ACTION.

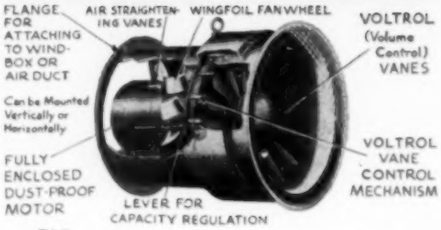
There is a Clebar stop watch for every precision timing purpose. Write for new FREE catalog which illustrates more than a score of models.

CLEBAR WATCH AGENCY

521 FIFTH AVENUE, NEW YORK 17

BREVITY—Identify by IEN - 2043 If you write the maker

Wing



WING FORCED DRAFT BLOWERS are used on many of the country's leading makes of boilers as standard equipment. The reason lies in the consistently satisfactory performance Wing Blowers have been delivering for over half-a-century—plus many superior features of Wing design, such as the volume control (Voltrol) vanes, permitting capacity regulation down to 10% of maximum. Write for complete details and latest bulletin. SW-50.

L. J. Wing Mfg. Co. 160 Freeland Mills Rd., Linden, N. J.

▼ BREVITY—identify by IEN - 2044 if you write the maker ▼

For Safety's Sake Use

DAYTON SAFETY LADDERS

Sizes 3 feet to 16 feet in height (measured from ground to platform) with standard rubber safety shoes at no extra cost.

Maintenance men everywhere rely on Dayton Safety Ladders for maximum safety and convenience. Daytons are constructed of tested airplane spruce and reinforced with rigid steel supports to give great strength and lightness of weight.

Handrails of steel guard the large roomy platform for added safety. Half of platform can be raised to form an extra step, when needed. These famous ladders can be set up instantly, are easy to carry and fold compactly for storing. Automatic locking feature insures safety while ladder is in use.

Write today for Bulletin No. 10

DAYTON SAFETY LADDER CO.
2339 GILBERT AVE. CINCINNATI, OHIO
In Canada—Safety Supply Company—Toronto

▼ BREVITY—identify by IEN - 2045 if you write the maker ▼

B.F.Goodrich

Wheelbarrow for light haul.

Moving heavy material for shipment.

Simplifying storage problems.

TIRE AND WHEEL ANALYSIS CAN SAVE YOU MONEY ON EVERY ONE OF THESE OPERATIONS

FOR more efficient materials handling, B. F. Goodrich offers a tire and wheel analysis plan designed to help beat rising costs and increase output. Trained BFG representatives study operations, make impartial recommendations regarding tire and wheel types and sizes, and give helpful care and maintenance tips . . . without obligation. Use the coupon for complete information.

A similar plan is available for manufacturers of industrial hauling equipment.

The B. F. Goodrich Co.
Department TW-157
Akron, Ohio

Please give me additional information on your new Tire and Wheel Analysis plan.

Name_____
Title_____
Company_____
City_____ State_____

only B. F. Goodrich has a complete line of industrial tires.

▼ BREVITY—identify by IEN - 2047 if you write the maker ▼

SEPARATING . . Magnetic unit cleans grinding and machining coolants

Source: SUNDSTRAND MAGNETIC PRODUCTS CO.
2529-33 Eleventh St., Rockford, Ill.

Easy to install

Permanent magnet, cylindrical in shape and made of solid Alnico, is revolved slowly by a motor above a trough carrying a mixture of coolant, grindings and metal particles. The magnet picks up the solid matter carrying it to a scraper which removes it for deposit in a separate container. The coolant flows back to the machine sump on which the new separator usually can be mounted. Overall dimensions including the container for the separated material is 28 by 10¼ by 23 inches.

▼ BREVITY—identify by IEN - 2048 if you write the maker ▼

PACKAGING . . Vinyl plastic covers for equipment and product protection

Source: POLO PLASTICS CO.
323-27 E. Chicago St., Milwaukee 2, Wis.

Tailor made for any product

New service has been established by the company to design and manufacture covers and enclosures made of vinyl-plastic film to protect equipment and products against contact with dust, moisture, corrosive liquids and vapors.

The service starts with design and preparation of a model for test and approval. This is followed by manufacture in required quantities employing plastic film of the approved thickness either transparent, translucent or colored. Seams can be sewed with nylon thread or jointed by electronic sealing equipment. Size of the equipment to be covered is not a limiting factor in enclosure design.

▼ BREVITY—identify by IEN - 2049 if you write the maker ▼

PRESS . . Open back inclinable rates 5 ton, 1 in. stroke, 6 in. throat

Source: WHITNEY METAL TOOL CO.
96-100 Forbes St., Rockford, Ill.

Operation is at 275 strokes per minute for this new No. 127 inclinable punch press. It is made of steel in welded assembly and mounts on a floor stand measuring 22 by 28 in. at the base. Equipment includes a positive non-repeat clutch. Stroke adjustment is through 1¼ inches. Ram to bed measures 7 in. with the stroke and adjustment up. A bench model is available.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—identify by IEN - 2050 if you write the maker ▼

KETT TOOLS *Pay off...*

THE KETT POWER SAW ...A FIST-FULL OF CUTTING POWER

In the tool kit of every contractor, builder, or maintenance man . . . in every metal-working shop, the Kett Power Saw is a time and labor-saving necessity. Light-weight but rugged and powerful, the Kett tool zips with amazing ease and speed through most any kind of sheet material . . . mild steel up to 10 gauge, aluminum to 3/16", Plastics and other soft material up to ¼" thick.

Immediate Delivery. Write to Dept. A-2 for full details and descriptive literature.

The KETT TOOL COMPANY
5 EAST THIRD STREET CINCINNATI 2, OHIO

▼ BREVITY—identify by IEN - 2051 if you write the maker ▼

CYCLONE FENCE DEPT., AMERICAN STEEL & WIRE DIVISION
UNITED STATES STEEL COMPANY
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

UNITED STATES STEEL

▼ BREVITY—identify by IEN - 2052 if you write the maker ▼

UNIFORM

KESTER FLUX-CORE SOLDER

UNIFORM in Alloy and Flux-Content

Right down the line, pound after pound, spool after spool, Kester has these features of *uniformity,* so necessary to the best in soldering!

Free Technical Manual: Send for your copy of "SOLDER and Soldering Technique" today.

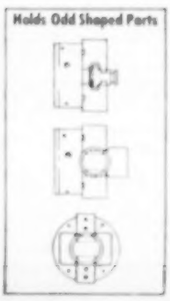
KESTER SOLDER COMPANY
4211 Wrightwood Ave., Chicago 39
Newark 5, New Jersey • Brantford, Canada

KESTER SOLDER

▼ BREVITY—identify by IEN - 2053 if you write the maker ▼

Buck ADJUST-TRU CHUCKS

NEW 2-JAW AVIATION CHUCK



THIS is the slickest way ever devised to hold irregular shaped parts for duplicate machining operations within .0005 precision.

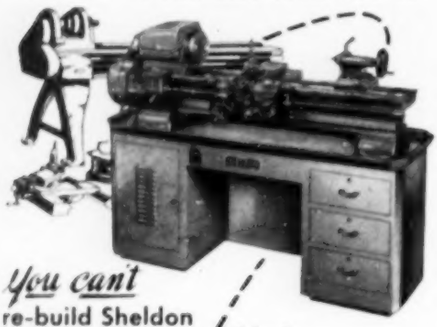
The master jaws have soft top jaws which you machine to hold your specific work, then harden if you wish. That's not new. But the way the Adjust-Tru principle saves time on accurate setbacking is truly amazing. The jaws move in and out simultaneously to grip the work with a single-piston action — just like any scroll chuck.

You make but one adjustment for precision when you start your run — then re-chuck with scroll chuck speed without further adjustment.

Ask for a catalog with full details.

BUCK TOOL COMPANY
216 Schippers Lane
KALAMAZOO, MICHIGAN

BREVITY—Identify by IEN - 2054 if you write the maker



You can't
re-build Sheldon Efficiency into an old lathe . . .

This practice of re-building obsolete machine tools is just poor business. You just can't re-build the accuracy, speed, convenience, and production capacity of a modern space saving Sheldon Precision Lathe into the cumbersome shell of an old lathe of obsolete design.

First, you would have to build in "Zero Precision" Timken Roller Bearings—there are no other bearings so accurate. You would have to bore a 1¼" hole thru the spindle to get Sheldon's capacity, and hold run-out accuracy within 0 to .0005". You would have to re-grind and scrape bed ways within tolerances of .001" per ft. and hold transverse ways and parallel alignment within .005"; and replace your lead screw with one cut on the latest Pratt & Whitney thread miller, etc. Thru Sheldon's 18 accuracy tolerances and still you would not have the efficiency of a fast, convenient, space-saving and power saving Sheldon Precision Lathe, which you can buy today from your tool distributor, fully assembled and ready for work. Don't re-build, replace for efficiency! Write for Catalog

SHELDON
CHICAGO

Sheldon Machine Co. Inc., 4208 N. Knox Ave., Chicago 41, Ill.

BREVITY—Identify by IEN - 2055 if you write the maker

Dependable, accurate control for steam or air service!

KECKLEY pressure regulators

If you have to control steam or air pressures to unit heaters, kettles, air cylinders or other equipment, you can't do better than WITH KECKLEY PRECISION PRESSURE REGULATORS. No more worries about pressure variations or continual maintenance. Keckley regulators operate longer and more accurately because they're the product of many years of technical experience in the designing and production of valve specialties.

Sizes from ½ to 6"—Screwed or flanged—Initial pressures to 300 lbs. steam, 600 lbs. air reduced to a low of 1 psi. Various combinations for pressure and temperature control — Ask our representative, your industrial distributor or write us for further information.

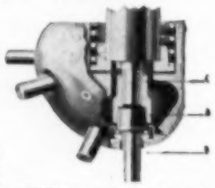
SEND FOR COMPLETE CATALOG 51-E

O. C. KECKLEY COMPANY
400 West Madison Street • Chicago 6, Illinois

BREVITY—Identify by IEN - 2056 if you write the maker

MORE HOLES
PER HOUR—PER DOLLAR

Increase production of any standard drilling machine by adding a Lign-o-matic, the only drill turret with the patented, self-centering principle that guarantees sustained accuracy equal to the drilling machine itself.



FOR ALL CONSECUTIVE DRILL PRESS OPERATIONS

PROVED PRODUCTION INCREASE — Turret indexes faster than tools can be changed or work moved to another spindle. A single Lign-o-matic will release 5 drilling machines for other work and still show increased production and reduced costs on original job.

VERSATILITY — Fits any standard drilling machine without altering the machine. Handles operations such as drilling, reaming, counterboring, and tapping (on reversible spindle machines), up to ½" diameter in any material.

PRECISION — Patented, self-centering tapered drive (A) automatically locks turret spindle (B) into exact alignment with drilling machine spindle (C) for sustained accuracy.

GUARANTEE — May be returned in 10 days for any reason for full refund of purchase price. Two-year guarantee against defective parts.

PRICE — Model D, 6 spindles with No. 2 Jacobs male taper $235.00
Chucks extra at established prices.

DELIVERY — Currently, 2 weeks.

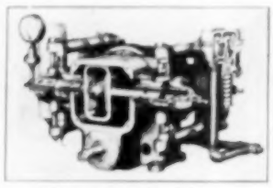
☐ Please rush ..... Lign-o-matic turrets for
(drill press make) ..... (size) .....
(quill dia.) ..... (spindle taper) .....
My name .....
Title .....
☐ Please send literature on Lign-o-matic turret.
(Attach coupon to company letterhead)

HOWE & FANT, INC.
524 FLAXHILL RD., SO. NORWALK, CONN.

BREVITY—Identify by IEN - 2057 if you write the maker

PUMP . . Reciprocating design, 3½ to 16 gpm., 350 to 800 pounds

Source: ROYALTON CO.
171 Eagle St., Gasport, N. Y.



Details in Bulletin 151

Eight sizes are included in the company's new line of Hi-Pressure industrial pumps in which pistons face outward on the two sides of a central yoke that is reciprocated by a roller-bearing crank on the main drive. Four of the pumps, in two cylinder assembly, rate 3½ to 15 gpm. with pressures at 350 to 600 lb. and motor-input rating at 1½ to 7½ hp. Four sizes rate 25 to 60 gpm. and mount two pairs of two cylinders each. Pressure rating is 700 and 800 pounds. Motor rating is 15 to 40 hp.

Bore over the eight sizes ranges from 1⅜ to 2¾ inches. Stroke is 1⅜ to 3¾ inches. Smallest assembly measures 11¾ by 18 by 9¾ inches overall. The largest one measures 34¼ by 41 by 28½ inches.

The pistons ride in the packing and do not touch the cylinder walls. The packing is adjustable by increasing or decreasing compression when a hexagon-head screw at each cylinder end is turned one way or the other. Ball-type valves and seats are clamped in position, can be slid out for inspection and maintenance after loosening a screw under each.

Pressure is set by adjusting a spring in the control housing located in the delivery line. This spring regulates the pressure at which a relief valve will open to return the pump fluid to the suction side. It opens also if the pump is started with the outlet valve closed. Main bearings are tapered-roller design.

BREVITY—Identify by IEN - 2058 if you write the maker

MOTOR CONTROL . . Section assembly for two or more ac. motors to 200 hp.

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.

Bulletin CEA-4979A

Vertical sections measuring 20 in. in width and depth by 90 in. in height are joined together and mounted on inverted structural channels to form this new free-standing dead-front NEMA-1 enclosed control assembly. Each is factory wired ready for line and equipment connections to provide multiple motor control in a central location with starters ranging from NEMA Size 1 through 5.

A feature in the design is a 4 in. vertical trough with cable supports. It runs the length of each section to provide space for the wiring so no threading through or fishing is required. Each unit is removable from the front or rear of its section. Each is designed in even multiples of 14 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2059 if you write the maker

Electric Heat With a Guarantee!

For OVENS and FURNACES

"Folded-and-Formed" Heating Elements covering entire work area in straight convection oven.

Custom-built insulated plug with "F-and-F" Heating Elements attached, in air circulating oven.

Standard "Folded-and-Formed" racks in batch type air circulating oven.

STANDARD RACKS—1.5 to 7.5 K. W.—made in 12" x 12" sections are used vertically or horizontally, singly or in multiples, to provide any desired total K. W.

CUSTOM-BUILT RACKS available in wide variety of sizes, up to 600 K. W. in one bank.

SPECIAL RACKS, up to 10' high by 10' long, with any required K. W. per square foot of surface area.

TREN INC
Electrically Heated Industrial Equipment
247 LEVERINGTON AVE. PHILA 27, PA.

BREVITY—Identify by IEN - 2060 if you write the maker

FOR MAINTAINING UNIFORM PRESSURE on ram presses, machine tool hydraulic mechanism, Diesels, oil-burning equipment

FULFLO

Oil, By-Pass Relief
VALVES

Simplest and quietest. 5 springs for predetermined pressures, from 0 to 500 lbs. Pipe sizes: ¼" to 2", standard or flange types.

NON-CHATTERING

WRITE—RIGHT NOW! on your letterhead for FULFLO MECHANICAL DATA BOOK

THE FULFLO Specialties Co., Inc.
BLANCHESTER, OHIO

BREVITY—Identify by IEN - 2061 if you write the maker

MAXI-PICH SHEAVES

four reasons why—
YOU SHOULD DEMAND
"V-BELT" MAXI-PICH Stationary & Motion Control Sheaves

They're engineered for rugged performance from best grades of heat-treated steel and soft-gray iron castings.

You get every advantage of other sheaves **plus** these 4 outstanding features—

1. MAXIMUM PITCH DIAMETER VARIATION
2. CONSTANT BELT ALIGNMENT
3. INTERCHANGEABLE BUSHINGS
4. USES COMMERCIAL V-BELT AND COMPANION SHEAVE

"V-Belt" Maxi-Pich Sheaves fit any factory machine—save installation and operating costs—speed production. For the FULL STORY, ask your "V-Belt" dealer, or write to the V-Belt Engineering Co., Richmond, Va.

V-BELT ENGINEERING COMPANY
RICHMOND, VIRGINIA

BREVITY—Identify by IEN - 2062 if you write the maker

FREED INSTRUMENTS

FREED No. 1010 Comparison Bridge — can be operated by non-skilled personnel. Is self contained, A. C. operated — Speeds up and maintains uniform production of resistors, condensers and inductors.

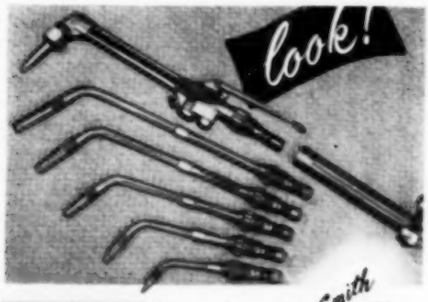
FREED No. 1020 Megohmmeter — self contained, A. C. operated with electronically regulated high voltage supply. Direct reading 1 megohm up to 2 million megohms.

FREED No. 1110A Incremental Inductance Bridge — for accurate testing of communication and television components under load conditions.

Send for complete catalog

FREED TRANSFORMER CO., INC.
Instruments Division
1732B Weirfield Street, Brooklyn (Ridgewood) 27, N.Y.

▼ BREVITY—identify by IEN - 2063 if you write the maker ▼



You can change these Smith TIPS in 6 Seconds

No wrench necessary. Fingers do the job. Tip changes now take only ¼ the time. Fast line-up of tip. Fast change from welding to cutting. Seal stays tight even if tip is battered or nicked. Cutting Assembly can be attached as quickly as tip. New "FLO-TROL" feature eliminates reverse flow of gas — prevents burned out seats. Another feature permits rotating tip while flame is burning. (Heavy Duty Torch Body and Cutting Assembly, shown above, carries Lifelong guarantee.) Write us today.

SMITH WELDING EQUIPMENT CORP.
Dept. IEN-11
2633 4th St., S. E., Minneapolis 14, Minn.

▼ BREVITY—identify by IEN - 2064 if you write the maker ▼

Salt Bath

NEUTRAL HARDENING

means just what it says!

...and far faster production at lower cost!

Photomicrograph showing absence of scale or decarb in S.A.E. 1085 steel hardened at 1500° F in neutral salt bath and quenched in oil. (Etched in 2% Nital.)

Because it seals out all air . . .

Because it leaves a thin film of protective salt on the work right up to the moment of quenching . . .

A neutral salt bath provides the ideal means of heating carbon or alloy steel parts. Scaling, pitting, carburizing and decarburizing are avoided. "Protective atmosphere", gas generating equipment and skilled operators are eliminated.

Heating cycles are 4 to 6 times faster than in atmosphere or radiant type furnaces.

Automatic electrodynamic stirring action within the bath means faster heating and a guaranteed temperature uniformity within 5°F. Ceramic pots last 5 years or longer and avoid bath contamination by metal oxides produced by metal pots.

Write on company stationery for 72-page Booklet 116A.

AJAX ELECTRIC COMPANY, INC.
THE WORLD'S LARGEST MANUFACTURER OF ELECTRIC HEAT TREATING FURNACES EXCLUSIVELY

900 Frankford Ave.
Philadelphia 23, Penna.

ELECTRIC SALT BATH FURNACES

▼ BREVITY—identify by IEN - 2066 if you write the maker ▼

RELAY . . Time delay unit employs a cold cathode trigger tube

Source: FARMER ELECTRIC CO.
23-B Mossfield Road, Waban 68, Mass.

Controls two circuits

New design of the company's Type-CK electronic timing relay, previously described IEN-6853-51, has provision for starting by either momentary or sustained contact. It also is equipped with a separate set of single-pole single-throw normally-open contacts to close at the start and re-open at the end of a timed cycle. These contacts will handle 8 amp. on 110-volt ac. the same as the main delay-relay contacts which differ from the auxiliary units only in double throw.

Four time ranges are overall at 1.5, 3, 6 and 12 seconds. A dial with 100 graduations permits setting to any intermediate point in the specified overall range. Installation is on 110-volt ac. Overall size is 3¾ by 3 by 4⅞ inches.

▼ BREVITY—identify by IEN - 2067 if you write the maker ▼

PAINTING . . Water white lacquer, transparent protective film for metals

Source: UNITED LACQUER MFG. CORP.
1003 W. Elizabeth Ave., Linden, N. J.

List price is $3.65 per gallon

Type B0562 is a new synthetic lacquer for brush, dip or spray application on finished non-ferrous metals. The coating bakes for 20 min. at 350 deg. F., produces a hard finish to prevent tarnishing by body acids, perspiration, alkalis, corrosive atmospheres. Gloss, semi-gloss and flat finishes are available. Packaging is in 5-gal. containers with minimum quantity at 10 gallons.

▼ BREVITY—identify by IEN - 2068 if you write the maker ▼

GRINDING . . Bench type machine for general use in 7 and 8-in. sizes

Source: BALDOR ELECTRIC CO.
4353-65 Duncan Ave., St. Louis 10, Mo.

$71 to $90

Wheel centers are a little over 15 in. apart in this new Series 7200 and 8200 machine. The 7 and 8-in. wheels, when new, are greater in diameter than the motor housing. Operation is at 3,450 rpm. Single or three-phase motor can be specified.

The motor is equipped with factory-lubricated permanently-sealed ball bearings and is mounted on a cast-iron base. Guards are equipped with spark breakers. Tool rests are adjustable in and out and can be tilted for angle work. Weight of the two sizes is 65 and 79 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—identify by IEN - 2069 if you write the maker ▼

GOVERNMENT REQUIRED on all Defense Contracts

TRANSPARENT WORK RECORD HOLDERS

Because they keep work records clean and understandable, reduce costly mistakes in office and factory, and step up production, transparent work "ticket" holders are a required "must" on defense contracts. T. P. A. envelopes by NAPLASCO are the quality leaders, featuring crystal clear plastic, leatherette bindings and reinforced corners. They are needed wherever men work . . . to eliminate "Misunderstands", confusion and alibis . . . and will save you time, money and headaches.

Naplasco
T. P. A. HOLDERS

Come in sizes and styles to meet your special needs for work records, job ticketing, material control and many other uses.

Write for low prices. FREE SAMPLE while supply lasts.

TRADE MARK

Makers of Binder envelopes • Blue Print Holders
Workshop Envelopes • I. D. Card Holders
Billfold Inserts • Plastic Specialties.

NATIONAL PLASTIC COMPANY
16 EAST 23RD STREET, NEW YORK, N.Y. • (GRamercy 7-1299)
8 SOUTH DEARBORN, CHICAGO, ILLINOIS • (CEntral 6-0025)
Main Office and Factory
2591 E. FOOTHILL BLVD., PASADENA, CALIF. • (RYan 1-8147)

▼ BREVITY—identify by IEN - 2070 if you write the maker ▼

Yours

for easier hydraulic circuit planning —
by makers of the famous HydrOlic Pumps and Controls

New JIC Circuit Guide AND DRAWING TEMPLATE

Denison's handy, 32-page JICircuit Guide, complete with plastic drawing template, gives you full information on JIC hydraulic symbols and their use. It saves time, makes circuit planning easier, quickly identifies symbols approved by the Joint Industry Conference. Although priced at $1.00, it is available *without cost or obligation* to anyone in hydraulic designing or engineering. Just submit your name and position; your kit will be sent promptly, with our compliments. Or if you contact the Denison representative in your area, he will see that you get a copy. Write today!

DENISON HydrOlics

The DENISON Engineering Co.
1150 Dublin Road
Columbus 16, Ohio

▼ BREVITY—identify by IEN - 2071 if you write the maker ▼

NEW! M. S. A. Chest-mounted Faceshield

"Out in Front" in Safety, Service, Comfort

Workers give it their vote for the best in comfort and protection. Wide-open space between visor and face eliminates "coming up for air." Visor adjustable to best angle for job. A favorite with women too, no mussed hair-do's.

You'll find complete details in Bulletin No. CN-5.

- √ AMPLE VENTILATION
- √ NO PRESSURE POINTS
- √ EASY ADJUSTMENT
- √ NO BINDING
- √ FREE MOVEMENT
- √ EASY VISOR REPLACEMENT

MINE SAFETY APPLIANCES CO.
Braddock, Thomas & Meade Sts.
Pittsburgh 8, Pa.
At Your Service: 66 Branch Offices in the United States

MSA SAFETY EQUIPMENT HEADQUARTERS

▼ BREVITY—identify by IEN - 2072 if you write the maker ▼

standardize with standard HALLOWELL FOREMAN'S DESKS®

HALLOWELL FEATURES

- Sturdy steel construction • Trim, attractive appearance • Smooth, splinter-proof writing surface • Easy gliding, ball bearing roller drawers • No protruding handles to catch or tear clothing

Standardized steel desks, with standard unit accessories, pay dividends in convenience and flexibility. As your requirements change, you simply add extra drawers, shelves, pigeonholes, etc. Write for descriptive literature. STANDARD PRESSED STEEL CO., Jenkintown 14, Pennsylvania.

HALLOWELL SHOP EQUIPMENT DIVISION

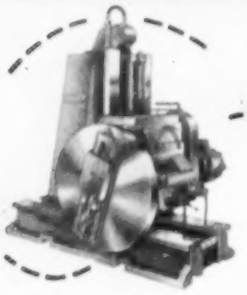
sps

JENKINTOWN, PENNSYLVANIA

BREVITY—Identify by IEN - 2073 if you write the maker

FORNEY

BORING and FACING MACHINE



- ★ Boring
- ★ Facing
- ★ Milling
- ★ Tapping
- ★ Drilling

WRITE FOR NEW BULLETIN

Designed to eliminate conventional overhang for necessary bar travel providing greater resistance to bending stresses when boring—greater rigidity when milling—increased capacity when facing. Numerous applications can be made in boring, facing, drilling, tapping and milling. Duplicator attachments available. Standard model weighs 10,000 pounds.

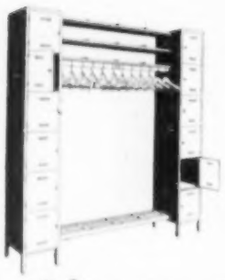
FORNEY'S INCORPORATED
Manufacturers of Special Machinery Since 1916
ELM ST. NEW CASTLE, PENNSYLVANIA

BREVITY—Identify by IEN - 2074 if you write the maker

VALET RACKS

Lockerette
KEEPS WRAPS "in press"

improves health and morale—lowers absenteeism

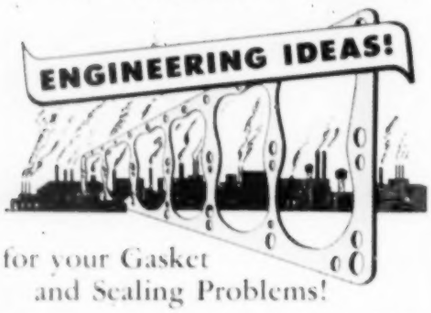


Wraps are exposed to air and light. **Employees do not face the weather** in damp wraps that have been crumple in dark lockers — do not eat soggy lunches, soaked by wet hats or gloves. Each person has his own spaced coat hanger, ventilated hat shelf and 12" x 12" x 19" deep lock box for lunches, tools and personal effects. Lockerettes save space too . . . the No. 6-12 (illustrated) accommodates 12 people in 6 feet; the No. 9-18 (3 pedestal) accommodates 18 in 9 feet.

Write for Bulletin OL-5

VOGEL - PETERSON CO.
624 So. Michigan Ave., Chicago 5, Ill.

BREVITY—Identify by IEN - 2075 if you write the maker



for your Gasket and Sealing Problems!

Looking for new ideas on gasketing or sealing? Let Fel-Pro Engineers help you solve these problems. For over 30 years Fel-Pro has designed and developed sealing materials, gaskets, etc. for industry. This experience can be put to work for you. Send us details and specifications on any of your specific requirements for our cost-cutting, product-improving ideas and recommendations. Write: FELT PRODUCTS MFG. CO., 1523 Carroll Avenue, Chicago 7, Ill.

SIGNED

FEL-PRO Utilize Newest Materials
ENGINEERED
Specifically designed for your product
gaskets

BREVITY—Identify by IEN - 2076 if you write the maker

WELDING . . Work positioner with variable speed power rotation

Source: ARONSON MACHINE CO.
152 W. Main St., Arcade, N. Y.

Table is grounded through mercury

Variable-speed rotation, motor-driven vertical movement and tilt, all operated from a remote push-button control station, characterize this new Model-21 welding positioner. Its table rates a 5,000-lb. work load. The complete assembly is suited for use with automatic welding equipment. Mounting is on 8-in. grooved casters beneath the base so the positioner can be applied on a track to move from one station to another.

Vertical movement for the table-support carriage is through 24 in. by means of a 3-hp. brake-equipped motor. A similar motor operates the tilt action through 135 deg. in connection with limit switches that can be positioned adjustably. Constant speed at 4 rpm. and a variable speed between standstill and 2.5 rpm. is by a continuously operating 2-hp. motor and electric clutches. The motors and control are designed for 110-volt ac. input. The clutches and brake rate 90-volt dc.

BREVITY—Identify by IEN - 2077 if you write the maker

PACKAGING . . Automatic machine feeds, wraps, stamps and addresses

Source: TELECOIN CORP.
12 E. 44th St., 7th Floor, New York 17, N. Y.

For purchase or lease

EnMail Serial 43 is a new automatic machine to take flat work measuring from 3½ by 6½ in. to 6½ by 9½ in. and to 2 in. in thickness. It is built in a larger size for work from 6½ by 9½ in. to 11 by 14 in., also with thickness maximum at 2 inches. The thickness can be made up of one or several objects, each individually fed in predetermined sequence from attachment mechanisms that apply on the machine beside the conveyor that carries the work to the wrapping section.

An envelope is formed in this section around the work from a blank fed in from a separate supply. Glue is applied to the flaps and the work is turned over so its weight holds the flaps down flat. Stamping and addressing operations take place after the wrapping operation and the completed work is delivered over a take-off conveyor. The machine requires one operator and can be set for production at 3,000 and 10,000 pieces per hr. depending upon type and size of the work.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2078 if you write the maker

SAND-O-FLEX eliminates hand sanding on propeller blades . . .

unretouched photos

A battery of Sand-O-Flex contour sanding wheels are in use at Dynamic Air Engineering Co. of Los Angeles, for cleaning up and satin finishing cast aluminum propeller blades used in aircraft heaters and blowers. Sand-O-Flex removes light burrs and flash, gets in and around the contoured hub and the pitch of the blades in a fraction of the time of previous hand methods.

Sand-O-Flex fastens to any turning spindle, no need for special equipment. Use it portably or stationary (as shown). A series of brushes cushion an abrasive cloth as it spins against the work piece and shapes the abrasive against the contour with a "paint brush" action. It is safe; anyone can use it—no skill necessary.

If you have a hand sanding or deburring problem, you need Sand-O-Flex. Unlimited uses on woods, metals, plastics, compositions. Specially prepared Sand-O-Flex Abrasive Refills available in a wide assortment of grits for all types of work. The Abrasive is loaded and fed out by a simple patented indexing device in a matter of seconds. Four sizes. Write for free catalog and prices.

merit products, inc., 4023 IRVING PL., CULVER CITY, CALIF.

BREVITY—Identify by IEN - 2079 if you write the maker

Don't take less than a *Leach* for Unsurpassed Performance

LEACH RELAY CO. offers a wide range of control relays of standard types, and stands ready to link new designs to your specific needs. Highest standards of engineering, materials and workmanship assure long, safe, efficient, trouble-free service.

FOR BETTER CONTROLS THROUGH RELAYS—CONTACT LEACH

LEACH RELAY CO.
5915 AVALON BOULEVARD • LOS ANGELES 3, CALIF.
Representatives in Principal Cities of U.S. and Canada

BREVITY—Identify by IEN - 2080 if you write the maker

TO CLEAN YOUR DIE MOLDS..

Moisture, oil and foreign matter completely removed from air lines by patented one-piece separator and eliminator chamber.

Does not waste air by continuous venting. Positive, automatic, effective for paint sprays, sand blasting, etc.

R & I E EQUIPMENT DIVISION
I-T-E CIRCUIT BREAKER CO.
GREENSBURG, PENNSYLVANIA

BREVITY—Identify by IEN - 2081 if you write the maker

EVERY* JET ENGINE MANUFACTURER USES "AMERICAN WELDED" COMPONENT PARTS

Welding is our business . . . 53 years' experience . . . complete designing, engineering and metallurgical service.

This is what we offer you if your requirements involve either fusion or resistance welding of either ferrous or non-ferrous metals.

Drop a line to our Product Development Division for our new illustrated catalog which will give you a look at our plant, facilities, and what we do.

* United States

THE AMERICAN WELDING & MFG. CO.
160 DIETZ ROAD • WARREN, OHIO

▼ BREVITY—Identify by IEN - 2082 If you write the maker ▼

For Access Panel and Door Assemblies

QUICK-LOCK speeds up mounting and demounting detachable panels. A 90° turn locks and unlocks it in a jiffy. Flexible mounting and tapered stud makes it ideal for assembling curved sheets and insures a tight fit when locked. Stud is self-ejecting when unlocked. Minimum deflection is assured—only initial loads are carried by the helical spring. Solid supports take up increased loads.

Call in a Simmons Engineer and compare QUICK-LOCK's economy with your present fastening method.

SIMMONS FASTENERS

SPRING-LOCK • QUICK-LOCK • ROTO-LOCK

SIMMONS FASTENER CORP., 1758 N. BROADWAY, ALBANY, N. Y.

▼ BREVITY—Identify by IEN - 2083 If you write the maker ▼

PRODUCTION UP

COSTS DOWN

WITH *Commander* **PRODUCTION TOOLS**

Adjustable **MULTI-DRILL**

- Adjustable To Any Hole Pattern
- Drill 2 to 8 Holes at 1 Stroke
- Fits Any Drill Press

MODEL 900

Increase production up to 800%—save time, cut costs. Mounted without alterations or special tools. 9" drilling area; centers to ½". Extension Spindles available to increase area to 22½". Special adaptations available.

"the tapper that thinks for its operator"

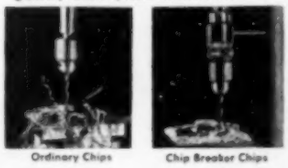
Commander **TAPPER**

- Wider Range . . . 1 Tapper Handles #0 to ¾" Taps
- Automatic Tap Protection
- Furnished to Fit Any Drill Press

Adjustable full range torque control instantly stops any tap when it's dull, loaded, strikes a hard spot, or bottoms in blind hole tapping. Assures maximum production, cuts rejects, even with inexperienced operators.

DRILL CHIP BREAKER

- Drill SHALLOW or DEEP Holes up to 400% Faster
- Drill 10 diameters or more in depth without clearing drill
- Better, Smoother, More Accurate Holes



Ordinary Chips — Chip Breaker Chips

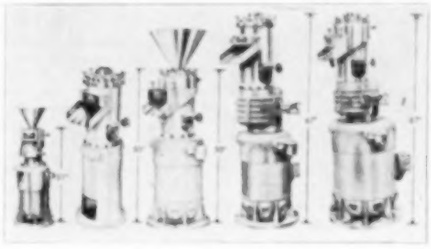
Write FOR CATALOG #851 and the name of your nearby Commander Distributor

Commander MFG. CO.
4219 W. KINZIE STREET
CHICAGO 24, ILLINOIS

▼ BREVITY—Identify by IEN - 2085 If you write the maker ▼

PROCESSING . . Abrasive machine designed to mill chemical materials

Source: MOREHOUSE INDUSTRIES
1154-58 San Fernando Road, Los Angeles 65, Calif.



Stone rotates at 5,400 rpm.

Chemicals in liquid and semi-liquid form are handled by the company's recently improved processing equipment. Capacities range from 320 to 5,000 gal. per 8-hr. day. The machines range from 3 to 40 hp. and each one can be provided with a constant-velocity pump operated by a variable-speed motor to move the material from pre-mixing tanks to the mill and from the mill to storage tanks or filling equipment. Parts coming in contact with the product, beyond the two abrasive stones, are made of stainless steel. The processing chamber is polished and provision is made for quick and thorough cleaning.

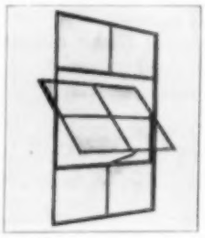
Applications include grinding, emulsifying, dispersing, homogenizing, disintegrating, blending. In each assembly the product moves between a stationary stone and one operating at high speed. In production models these stones measure 7 in. in diameter and have area of about 38 square inches.

Certain of the equipment is jacketed for water cooling or heating. Each assembly has provision for adjustment of the very narrow space between the stones. A built-in oil pump sprays oil on the gearing under 20-lb. line pressure.

▼ BREVITY—Identify by IEN - 2086 If you write the maker ▼

BUILDINGS . . Pivoted steel window, hot rolled sections in standard sizes

Source: STEELCRAFT MFG. CO.
9015-19 Blue Ash Road, Rossmoyne, Ohio



Stocked standard sizes

Hot rolled steel is employed in the construction of this new horizontally-pivoted window in which joints are mortised and tenoned and hammer riveted. Weathering members of 14-gage steel are welded to the frame bars surrounding the ventilator opening.

Muntin intersections are mitred to interlock the bars. Double flat contact weathering is provided on the four sides of the ventilator, which is pivoted 2 in. above its centerline. Spring-latch or cam-latch hardware can be specified. Each unit is Bonderized and finished with a baked prime coat. The design calls for inside glazing of the sash on the job.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 2087 If you write the maker ▼

for GREATEST DEPENDABILITY and EFFICIENCY in metered pressure pumping of

SULPHURIC ACID

. . . at all concentrations

Pumps against line pressure . . . meters accurately . . . has no stuffing box, so eliminates leakage, prevents corrosion of pump or contamination of product, avoids loss of prime . . . lowest maintenance . . . Hundreds of satisfactory installations.

- NO STUFFING BOX OR RUNNING SEAL
- POSITIVE DISPLACEMENT PISTON MEASUREMENT
- FLOW RATE ADJUSTABLE WHILE IN OPERATION
- MANUAL OR AUTOMATIC CONTROL

Lapp PULSAFEEDER

PISTON-DIAPHRAGM CHEMICAL PROPORTIONING PUMP

WRITE for Bulletin 262 with complete dimensions and specifications.

LAPP INSULATOR CO., INC., PROCESS EQUIPMENT DIVISION 476 BOBLE STREET, LE ROY, N. Y.

▼ BREVITY—Identify by IEN - 2088 If you write the maker ▼

Small Control Wiring Made Easy

CURTIS TYPE "E" BLOCKS

TYPE:
Factory molded in any number of terminals from 1 to 22.

WIRE:
AWG. No. 18 stranded and No. 16 solid.

TERMINALS:
Clamp type — no lugs, no looping — positive connection. Wires are held so firm they will break before pulling out.

CONSTRUCTION:
Solid molded base—screws cannot short to ground.

Write for Bulletin DS-123. For quick reference consult our condensed catalog in the McGraw-Hill Electrical Catalog for Production Engineers.

CURTIS DEVELOPMENT & MFG. CO.

3214 NORTH 33rd STREET • MILWAUKEE 16, WISCONSIN

▼ BREVITY—Identify by IEN - 2089 If you write the maker ▼

"HOLD ON WHEELS"!

LATEST DICO'S *Free* CATALOG EDITION

. . . Sure Speedy HELP On Your WHEEL PROBLEMS

You'll get lots of *HELP* from the Latest Edition of DICO's Wheel Catalog.

It is loaded with uniquely simplified answers to high speed and low speed wheel engineering problems.

DICO COMPANY

Write TODAY!

A modern line of industrial wheels 6"-22" rubber diameter.

202 S.W. 16th ST., DES MOINES, IOWA

▼ BREVITY—Identify by IEN - 2090 If you write the maker ▼

HALLOWELL "UNI-TRUKs"

make tough jobs easy!

- All-steel, all-welded construction eliminates dead weight, reduces maintenance.
- Ribbed angle nave takes more weight without bending, makes pickups easier.
- Concave cross members accommodate drums, bags, cartons, rolls, kegs, etc.
- "Uni-Truks" roll freely, handle more easily.

Write for descriptive bulletin 789. STANDARD PRESSED STEEL Co., Jenkintown 14, Pennsylvania.

HALLOWELL MATERIALS HANDLING DIVISION

sps

JENKINTOWN, PENNSYLVANIA

BREVITY—identify by IEN - 2091 if you write the maker

Slash cutting oil and coolant consumption

with NUGENT Pressure Filters

Write for bulletin which completely describes Nugent cutting oil and coolant filters

Three important benefits are offered when your machine tools are equipped with Nugent cutting oil and coolant filters . . . oil consumption is reduced . . . tools are protected against unnecessary wear . . . better machining with fewer rejects is assured.

With Nugent filters you get up to 20 times greater filtering area (compared to other filters of comparable size) plus ease of installation and maximum life with minimum maintenance. Capacities range from ¼ to 320 GPM.

Write for specific recommendations.

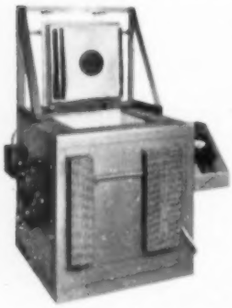
Wm. W. Nugent & Co., Inc.
418 N. Hermitage Ave CHICAGO 22, ILLINOIS
Est. 1897

Oil Filters, Oiling and Filtering Systems, Telescopic Oilers, Oiling Devices, Sight Feed Valves, Flow Indicators . . . *Representatives in Principal Cities*

BREVITY—identify by IEN - 2092 if you write the maker

The New HUPPERT VERTICAL ELECTRIC FURNACE

The latest addition to a broad line



Here's a vertical electric furnace that can be adapted to unlimited general and industrial uses such as steel hardening, tempering, drying and firing of ceramics. One of several versions of this rugged furnace features an inside *tool* assembly for equalized temperatures up to 1250° F. Another version provides a maximum temperature of 2000° F. without fan.

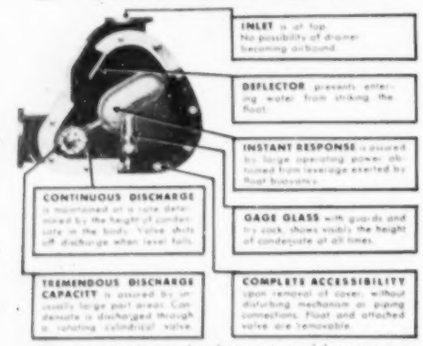
Sturdy Kanthal heating elements, mounted in refractory plates, are located on the four sides of the heat chamber. Multi-insulation assures maximum heat retention at all times. Power relays, fused switch box and all interconnections are factory installed — unit ready to operate upon delivery.

Send for complete information and sizes on this new Vertical Furnace and also the standard line of Huppert furnaces and ovens

K. H. HUPPERT CO.
6856 Cottage Grove Avenue Chicago 37, Ill.
Manufacturers of Electric Furnaces and Ovens

BREVITY—identify by IEN - 2093 if you write the maker

COCHRANE MULTIPORT DRAINERS



This consistently popular drainer is used for removing large quantities of condensate from evaporators, heaters, separators, coils, etc. under vacuum or positive pressures up to 200 lbs. per sq. in.

COCHRANE CORP., 3152 N. 17th ST., PHILADELPHIA 32, PA.

COCHRANE

BREVITY—identify by IEN - 2094 if you write the maker

VALVE . . Air release unit for steam radiator uses expanding discs

Source: TACO HEATERS INC.,
135 South St., Providence 3, R. I.

Expanding discs are assembled on a central stem in the housing of this new steam-air valve. The valve applies on the air vent for a steam radiator. Steam entering the valve wets the discs causing them to swell so they close the outlet. When air is present, however, the swelling action does not completely shut off the flow passage so the air can escape. When all of the air has been forced out the discs do stop further flow. When the thermostat controlling the radiator has been satisfied and steam is shut off, the resulting vacuum draws air in through the outlet, dries the discs, causes them to contract and open the valve. Overall dimensions are ¾ by 1 inch.

BREVITY—identify by IEN - 2095 if you write the maker

SEALING . . Synthetic O-rings meet Specification AXS 1440, Class A

Source: PARKER APPLIANCE CO.
17323-27 Euclid Ave., Cleveland 12, Ohio

Standard in 192 sizes

Compound 90 is a new synthetic-rubber formulation for O-rings particularly for use in tanks and other military vehicles. The rubber is resistant to heat to 225 deg. F. It is characterized by low-compression set and high hardness. It is particularly suited for high-pressure sealing that involves resistance to oil leakage.

Tensile strength is 1,450 lb. per sq. in. without loss after seven days of aging in either air or AXS 808 oil at 158 deg. F. Hardness is Shore 90. It also is unaffected by aging. Volume swell after a seven-day hot-oil test is 4.6 per cent. Sizes range from $\frac{1}{16}$ to ¼ in. in ring section and from ¼ to 15½ in. in internal diameter as nominal lower and upper limits.

BREVITY—identify by IEN - 2096 if you write the maker

LIGHTING . . Extension light and signal flare for 6-volt circuit

Source: A. G. BUSCH & CO.
2630-34 N. Central Ave., Chicago 39, Ill.

Retails at $3.25

Safety Flare is a new plastic-enclosed extension light to plug into the outlet on a motor-vehicle dashboard in place of the standard electric cigar lighter. It provides a beam of light to illuminate an area through the lens at the front. The housing glows red at the same time to provide a safety signal visible from a considerable distance. Permanent magnets on the side hold on any ferrous surface.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 2097 if you write the maker

Buckingham Thread Restorer

Now — no more drilling or hack sawing to replace damaged male threads! Buckingham Thread Restorer eliminates flats and nicks — cleans heavily rusted and corroded threads on studs, bolts, pipes, threaded shafts.

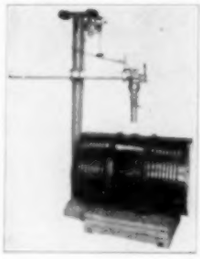
Simple — quick. Just slip on a Buckingham Thread Restorer at bottom of damaged area and back-off. Jaws adjust to any pitch — SAE, ASME, pipe or tapered. One tool handles many sizes . . . no die sets needed!

Eight models for ¼" to 6" threads. Write for free folder and name of nearest dealer.

BUCKINGHAM MANUFACTURING CO., INC.
49-51 Travis Street Binghamton, N. Y.

BREVITY—identify by IEN - 2098 if you write the maker

AUTOMATIC DRUM FILLER



Fills containers from 5 gallons up.

Operates from a lighting socket.

Handles any liquid.

Accuracy unaffected by air, vapor, sediment.

Fills to predetermined net weight.

Available in standard or explosion proof models.

Needs no temperature adjustment

A real time saver with heavy liquids

Ask for four page catalog "Automatic Drum Filling Valves"

THE VOL-U-METER COMPANY
BUFFALO 16, N. Y.

BREVITY—identify by IEN - 2099 if you write the maker

As a Man Bends, So Bends the LAWLOR

The adjustable handle makes it possible to scrub and wax polish in congested places where hand cleaning was necessary before — around and under machines, counters, desks, lockers, etc.

Operator can raise or lower handle to any angle within an 80 degree arch and shove the Lawlor under anything where there is at least a 9½" opening and as far back as 4½ feet. Three models — a size to suit every need.

Write for literature on adjustable handle models and other Lawlor units.

There's a complete line of Lawlor Floor Maintenance Equipment—scrubbers, wax-polishers, mopping tanks, mop wringers.

S. C. LAWLOR CO.
Quality Floor Equipment for 50 years
120 N. ABERDEEN ST., CHICAGO 7, ILL.

BREVITY—identify by IEN - 2100 if you write the maker

Now! AT YOUR FINGERTIPS!

A Means Of Pre-determining The Right Corrugated For Every Job

THE *ChippaKit*

• • • The handiest reference file of corrugated materials you ever saw!
• more compact than many reference books—only 8½" x 3¾" x 5½".
• carries complete line of samples of Chippaflex Flexible Corrugated and Chippewa Single-Faced Corrugated—the widest variety available anywhere.
• each sample individually labelled, indicating weight, grade, backing sheet, flute, etc.
• always up-to-date—new samples sent as available. Look for 3 NEW numbers.
• completely reliable—actual shipments do not deviate from ChippaKit sample standards. Once you specify—you know. The grade never changes.
• a fabulous time-saver—saves effort and money, too.

SEND FOR YOUR *ChippaKit* TODAY!

All Chippewa Products Are Distributed By Selected And Accredited Paper Merchants

Chippewa
PAPER PRODUCTS CO., INC.
2425 S. Rockwell Street Chicago 8, Illinois

BREVITY—Identify by IEN-2101 if you write the maker

RAILS AND TRACK ACCESSORIES

Buy Rails and Track Accessories from a reliable single source—to save time and money. L. B. Foster's large warehousing operations provide dependable delivery of all your trackage needs—new installations or replacements. We'll meet your exact requirements. All material is rigidly inspected before shipment and is backed by Foster's Guarantee.

Write for Rails & Track Accessories Catalog IE2

STEEL SHEET PILING • PIPE • WIRE ROPE

L.B. FOSTER CO.

PITTSBURGH 30, PA. NEW YORK 7, N.Y.
CHICAGO 4, ILL. HOUSTON 2, TEX.

BREVITY—Identify by IEN-2102 if you write the maker

Here's the Answer to BULK MATERIAL HANDLING PROBLEMS

Phillips "Skid-Dump"

Bulk materials of all kinds are handled with maximum efficiency at minimum cost . . . with the Model F-1 "Skid-Dump. Used with pallet or fork lift truck, it automatically dumps and returns to original position. Smooth, rolled edges of 3/16" steel plate, welded undercarriage provide safety, long-life, strength and durability. Capacity—1 cu. yd.

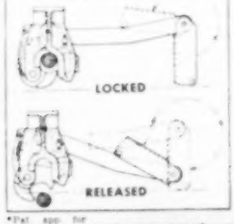
Write for Bulletin E-13

Heaviest materials easily handled with pallet truck.

Automatically dumps materials, returns and locks in original position.

New Safety Lock*

Provides maximum safety for operator—prevents accidental dumping of load.



Conveniently stacked, empty or full.

*Pat. app. for

MANUFACTURERS SINCE 1863 **PHILLIPS** MIKELAND MILL SUPPLY COMPANY PITTSBURGH, PA.

MATERIALS HANDLING EQUIPMENT

2300 JANE STREET • PITTSBURGH 3, PA.

BREVITY—Identify by IEN-2104 if you write the maker

DRYING . . Vacuum equipment sublimes moisture from frozen materials

Source: PROCTOR & SCHWARTZ INC.
650 Tabor Road, Philadelphia 20, Pa.

Nothing gets wet

New assembly of equipment, primarily for research purposes, has been added to the company's Freeze-Drying equipment, previously described IEN-3367-50. Production is under license from Dry Freeze Corporation to handle heat-sensitive materials. The action consists of freezing the material, placing it in a vacuum chamber, exposing it to wires glowing in a selected infrared temperature range, thus causing the moisture to sublime off without going through the liquid stage. The material is handled in glass containers or on trays.

The drying chamber in the new assembly is a steel cylinder 18 in. in diameter by 30 in. in length. It is fitted with a clear plastic door and a coil located at the rear to condense vapors to a minimum of minus 70 deg. F. A drain at the bottom in the rear also is provided to remove melted condensate. The chamber is finished in baked enamel inside and out.

Vacuum is provided by a pump rating 13 cfm. It is air cooled design and is driven by a ½-hp. motor to produce total pressure under 100 microns in the drying chamber.

The refrigerating equipment includes a motor-driven compressor and the required controls. Capacity is sufficient to condense 1 lb. of water vapor per hour at 200-micron total pressure. Heaters are supported on brackets in the drying compartment. They include radiant resistance wires on 1½ in. centers, bottom and side reflectors of bright aluminum sheet and the required electrical leads and control.

Four racks are provided with each unit to take vials from 1 to 60 ml. in size. Two trays also are supplied for drying in bulk. Each tray will hold 2½ liters of liquid.

BREVITY—Identify by IEN-2105 if you write the maker

MAGNIFYING . . Illuminated fixture with 5 in. lens, four fluorescent lamps

Source: LARRIMORE SALES CO.
P. O. 1234-A, St. Louis 1, Mo.

Takes "black-light" lamps

Model 1234-U55 is a new unit in the company's Inspector line of illuminated magnifying fixtures. It is characterized by its use of one 5-in. double-convex lens in its head and another on a swivel panel so either single or double magnification to 3X can be applied.

Illumination is by four 6-watt fluorescent tubes in a square around the lens area for shadowless operation. Standard fluorescent lamps or "black-light" lamps can be used. Separate switches operate the lamps in pairs front and rear and on two sid = for desired effect.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN-2106 if you write the maker

If it LIFTS, HAULS, or HOLDS ANYTHING

with wire rope or chain —

IT NEEDS

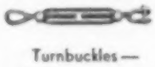
LAUGHLIN

DROP FORGED FITTINGS

Safety "FIST-GRIP" Wire Rope Clips

Clevis Grab and Slip Hooks

"MISSING LINKS" Stronger than the chain itself



Turnbuckles — all sizes and types

Write for new Catalog No. 150, showing almost 1500 types and sizes of drop forged fittings.

LAUGHLIN

The Thomas Laughlin Co., 21 Fore St., Portland 6, Maine

BREVITY—Identify by IEN-2107 if you write the maker

$1907 G-E capacitor investment saves $2700 a year

Completely paid off in eight months—that's the experience the Empire Plow Company of Cleveland, Ohio, had when they installed 240-kvar of General Electric capacitors.

The power factor rose from a money-wasting 81% to better than 97% after the capacitor installation. This improvement in power factor meant real savings in the power bill. The entire installation—capacitors, switches and labor—cost $1907. The savings have been $2700 in the first year alone.

A quick check may show that you can do the same—especially if your power factor is below 85%. Also, capacitors will usually improve voltage conditions, allow for expansion of your electrical load, and relieve feeders and transformers of overload. Call your nearest G-E Sales Office or write for information on how capacitors can help you. Address *Sec. N407-197, Apparatus Department, General Electric Company, Schenectady 5, N. Y.*

GENERAL ELECTRIC

BREVITY—Identify by IEN-2108 if you write the maker

STOP DOWN TIME ON AIR-OPERATED EQUIPMENT With the HANNIFIN "AIR WARDEN"

High production schedules *DEMAND* continuous performance from air-operated equipment. So Hannifin developed the "Air Warden" as the finest protection possible.

One complete "Air Warden" unit FILTERS AIR — REGULATES PRESSURE — LUBRICATES —*Simultaneously!*

GET ALL THE DETAILS ON HANNIFIN'S MONEY-SAVING "AIR WARDEN"!

Components sold singly or in any combination. Write for literature.

HANNIFIN

Hannifin Corporation • 1107 S. Kilbourn Ave. • Chicago 24, Illinois

BREVITY—Identify by IEN-2109 if you write the maker

Unique counterclockwise knurls make these UNBRAKO Set Screws self lockers, prevent creep and subsequent loosening. Because UNBRAKO Self-Locking Set Screws stay tight, even in poorly tapped holes, they reduce maintenance costs and production losses. Write for descriptive literature. STANDARD PRESSED STEEL CO., Jenkintown 14, Pennsylvania.

SPS recommends standards—#4 to 1" available from UNBRAKO distributors' stocks.

UNBRAKO SOCKET SCREW DIVISION **SPS**

JENKINTOWN PENNSYLVANIA

BREVITY—Identify by IEN - 2110 if you write the maker

AMESTEAM GENERATOR

I Bought One Because It's

EASY TO INSTALL
EASY TO OPERATE
EASY TO CLEAN

10 to 500 h.p.
15# to 200# w.p.
OIL or GAS

WRITE FOR BULLETIN 1011-C

AMES IRON WORKS
BOX 1-2, OSWEGO, N.Y.

Builders of Better Boilers Since 1848

BREVITY—Identify by IEN - 2111 if you write the maker

Here's Efficient, Dependable Air Supply

JOY WL-80 "UNITAIR" COMPRESSOR

- ★ A size for every standard motor rating
- ★ Force-feed lubrication
- ★ Small floor-space requirements
- ★ 81 to 640 CFM
- ★ Two Stage . . . Air cooled

And here's FREE HELP!

Bulletin A-56 . . . new, with 16 fact-filled pages and a Selector Chart. Write for it to select the right compressor for your needs.

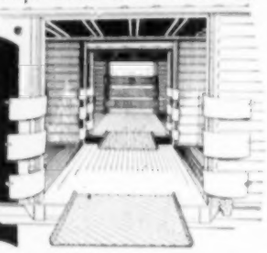
Consult a Joy Engineer

W A D 1308K

JOY MANUFACTURING CO.
General Offices: Henry W. Oliver Building
Pittsburgh 22, Pa.
IN CANADA: JOY MANUFACTURING CO. (CANADA) LIMITED
GALT, ONTARIO

BREVITY—Identify by IEN - 2112 if you write the maker

between you and shipping losses



SIGNODE RETAINING STRIPS

New six years ago . . . since proved through thousands and thousands of successful applications . . . Signode Retaining Strips provide low-cost doorway protection for carload shipments of packaged products. As illustrated, they are easily applied and draped back out of the way for through-car loading. When loading is complete, the strip halves are rejoined by tensioning and sealing the supporting straps. Made of heavy kraft paper, reinforced top and bottom with strong Signode Strapping, they reduce dunnage weight, eliminate need for car doorway liner, speed unloading. *For full details write . . .*

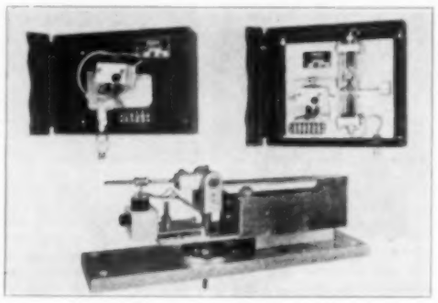
SIGNODE STEEL STRAPPING CO.
2611 N. Western Ave., Chicago 47, Illinois

THIS SEAL MEANS SIGNODE SECURITY IN SHIPPING

BREVITY—Identify by IEN - 2113 if you write the maker

SIGNALING . . Electric transmitter actuated by changes in pressure or load

Source: AUTOMATIC TEMPERATURE CONTROL CO.
5212 Pulaski Ave., Philadelphia 44, Pa.



For specified application

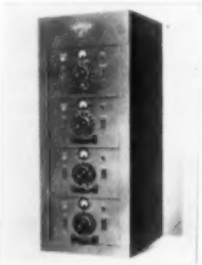
Three assemblies have been added to the company's Atcotran indicating, recording and control equipment to provide transmitters for an electrical actuating signal that can be operated by a bourdon tube, a differential bellows or a cantilever load beam. Each applies with the company's electronic signal amplifier and its servo-motor, or other suitable equipment, to operate indicating and recording instruments or to establish automatic control.

Linear movement of the armature in the differential transformer connecting to the actuating element results in an ac. signal in proportion to the amount of motion in a phase relative to the direction of the motion. The signal is amplified to provide a workable output for each installation. The transformer armature moves on an applied force of 0.01 gram so no multiplying mechanism is required and this primary element is free to respond to minute variations.

BREVITY—Identify by IEN - 2114 if you write the maker

HEATING . . Induction equipment in multiple 2½ kw. unit assemblies

Source: INDUCTION HEATING CORP.
179-83 Wythe Ave., Brooklyn 11, N. Y.



No radio interference

Any number of 2½-kw. units can be assembled in multiple to supply power to a heating section that can be located at any convenient point on a production line in this new induction-heating equipment. Operation is on 220-volt 60-cycle single-phase ac. on the input side with input per section at 4 kva. The new equipment is available with the necessary accessories for production-line set-up and for variable, manual and automatic control and regulation of the heating action. The multiple assembly permits change in the power equipment and also in location of the heating units to meet changing production requirements within a given plant.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2115 if you write the maker

These HYDRAULIC GAUGES can TAKE A BEATING

Where a hydraulic gauge has to lead a tough life, insist on Schrader. These rugged hydraulic gauges withstand shock and overload without losing their efficiency because they're built on the Schrader *Direct Action* Principle and incorporate a built-in snubber.

New Schrader HYDRODIAL GAUGE
Clear, durable plastic face.
Pressure Ranges from 5-50 to 500-5000 lbs.
Readable 50 ft. away!

STANDARD GAUGES

Open Type

Enclosed Type

Pressure ranges 5-50 to 1500-5000 lbs.

For Long Life and Easy Maintenance Always Specify Schrader

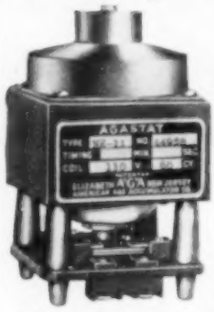
Write for complete information and literature about Schrader Hydraulic Gauges. For information about hundreds of other Schrader Air Control Products . . . Air Filters, Air Cylinders and Valves, Press Controls etc., ask for 72-Page Catalog

A. SCHRADER'S SON
458 Vanderbilt Avenue
BROOKLYN 17, NEW YORK, Dept. D8
Division of Scovill Manufacturing Company, Inc.

Schrader

BREVITY—Identify by IEN - 2116 if you write the maker

easily mounted



in any position, altho designed for vertical mounting. Back mounting or front mounting.

AN

AGASTAT

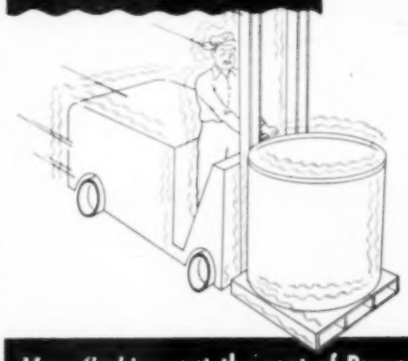
TIME DELAY RELAY for every requirement

A·G·A 1027 NEWARK AVE., ELIZABETH 3, NEW JERSEY

A·G·A AGASTAT TIME DELAY RELAYS · A·G·A STORMONITE REFLECTORS · A·G·A AIRPORT LIGHTING · A·G·A MARINE LIGHTING EQUIPMENT

BREVITY—Identify by IEN - 2117 if you write the maker

THIS increases the cost of making your product



Mono-Cushions cut the cost of Bumps

MONO-CUSHIONS SAVE YOU MONEY by giving load, vehicle, and driver an easy ride. These big burly tires fairly soak up bumps and shock, reduce maintenance as much as 40% on bearings, steering assemblies, driving trains, and any part of the vehicle affected by shock or shock load. They reduce load breakage, and they're easy on floors.

Mono-Cushions are easy on drivers, too—handle beautifully, ride smoothly, reduce fatigue. They're sure-footed, stable on high lifts and short turns.

YOUR BEST SOURCE for replacement tires is through the manufacturer of your equipment, who can supply you through his distributors with Monarch Tires engineered for your application.

THE MONARCH RUBBER COMPANY
201 LINCOLN PARK HARTVILLE, OHIO

SPECIALISTS IN INDUSTRIAL SOLID TIRES AND MOLDED MECHANICAL RUBBER GOODS

BREVITY—identify by IEN-2119 if you write the maker

Modern way to save money . . . Farquhar medium duty PACKAGE CONVEYOR

Cuts COSTS Boosts PROFITS

If you're looking for an easier, faster, *cheaper* way to move bags, bales, boxes, cartons and bundles up to 75 pounds, get this Farquhar Model 436 Package Conveyor on the job and watch your handling costs hit rock bottom!

The Farquhar Model 436 is especially designed for all types of portable or semi-permanent materials handling installations. Heavy, two-ply rubber covered belt is 12" wide, carries units up to 75 pounds at standard speed of 78 feet per minute. Belt is supplied with or without cleats. Standard center support provides great stability, may be attached to floor or hung from ceiling. Minimum length 14 ft., maximum 32 ft.

For information on this money-saving Farquhar Model 436 Conveyor — or other Farquhar Conveyors for *all* bulk and packaged materials handling—write to:

A. B. FARQUHAR COMPANY
Conveyor Div., Dept. F-32
142 N. Duke St., York, Pa., or
618 W. Elm St., Chicago, Illinois

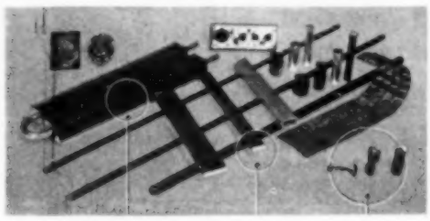
Farquhar CONVEYORS SAVE YOU MONEY

HYDRAULIC PRESSES · FARM EQUIPMENT · FOOD PROCESSING AND SPECIAL MACHINERY

BREVITY—identify by IEN-2120 if you write the maker

General Plate Alcuplate
(COPPER-CLAD ALUMINUM)

Does The Work of Solid Copper . . . Helps Conserve Critical Copper



Typical Applications of Alcuplate

General Plate Alcuplate (copper-clad aluminum) provides a practical solution for conserving or extending your copper allotment.

Made by permanently bonding a thin layer of critical copper to thicker, more readily available aluminum, Alcuplate has practically the same physical and electrical properties as copper plus the light weight of aluminum.

Alcuplate can be fabricated by stamping, drawing or forming. Its malleability permits its use in the manufacture of many parts from work-hardened rather than annealed or dead soft materials. The copper surface permits soft soldering.

Alcuplate is widely used in the electrical field for terminals, clips, bushings, shims and high frequency application such as wave guides. It may also be used for heat transfer assemblies, fin and tube type radiators, printed circuits, badges, costume jewelry, etc.

General Plate Alcuplate is available in sheet and strip clad on one or both sides, 8" wide in thicknesses ¼" and under. Tubing and wire are also available in limited sizes.

GENERAL PLATE
Division of Metals & Controls Corporation
72 FOREST STREET ATTLEBORO, MASS.

BREVITY—identify by IEN-2121 if you write the maker

HOW TO BUY BLOWERS AND FANS

If you buy ventilating or air moving equipment, for factory, foundry, mill or office, send for this Standard Electric booklet. It describes fans and blowers in types and capacities for many purposes . . . with exclusive features of design and construction . . . at prices much lower than you have been accustomed to paying. It will show you dollar for dollar values you cannot afford to ignore on equipment you may need and we may be able to supply promptly.

SEND FOR YOUR FREE COPY OF THIS COMPLETE GUIDE BOOK AND CATALOG

STANDARD ELECTRIC MFG. CO., INC.
WEST BERLIN 1, NEW JERSEY

PRODUCT INDEX

How to find what you need:

Leaf through the issue with your current needs in mind, noting down those subjects that sound like solutions to your problems as you read the subject headings.

Next use this index to pick up page number references to additional sources on the subjects you have chosen. An asterisk (*) in the index after a number means editorial material.

Now take one subject at a time and refer to the pages you have noted. This time read the editorial descriptions and advertisements in detail. Then write the IEN numbers on which you want further information on your Reader Service Form to send to us, or write the manufacturer direct.

If you have trouble in finding the answer to your current problem through the subjects in this issue, let us know. We can name sources of supply with the help of our nineteen-year index of all products that have appeared in IEN. Any question we cannot answer will be published in our "I Wish I Had" column to invite suggestions.

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BREVITY—identify by IEN-2122 if you write the maker

A PAID NEWS ADVERTISEMENT BY REMINGTON RAND INC.

"Paired to Cut Invoicing Costs"

Booklet describes how Remington Electri-conomy Typewriter and Remington Rand *Printing* Calculator provide faster, more economical invoicing.

Here is concrete information on how *you* can cut invoicing costs with this Remington Rand efficiency-tested team—*the Electri-conomy Typewriter* and *the Printing Calculator*. Chock full of illustrations and money-saving invoicing plans, this booklet contains vital information of interest to every business, large or small . . . and it's all condensed into 8 pages for quick, easy reading. A copy of this booklet may be obtained by writing the publisher, Remington Rand Inc., Room 2450, 315 Fourth Avenue, New York 10, N.Y. or by using the Reader Service Form herein.

REMINGTON RAND INC.
Business Machines and Supplies Division, Room 2450
315 FOURTH AVENUE, NEW YORK 10, N. Y.

BREVITY—identify by IEN-2123 if you write the maker

IT'S THE *Usable Production* THAT COUNTS—

. . . More and More, it's Motch & Merryweather SEGMENTAL SAW BLADES for cutting off LARGER STOCK!

Triple-Chip

Faster cutting with accuracy and safety—that means higher *usable* production. Get these results every time with the Triple-Chip Method and M. & M. segmental saw blades. Our "Hi-Lo" alternately wide-and-narrow tooth grind breaks up chip loads, disperses strains, minimizes breakage, hangs up new production records in cutting off large stock.

Get our Circular Sawing Handbook.

THE MOTCH & MERRYWEATHER MACHINERY CO.
PENTON BUILDING · CLEVELAND 13, OHIO

COMMAND OUR UNPARALLELED EXPERIENCE IN CIRCULAR SAWING

BREVITY—identify by IEN-2124 if you write the maker

how to design for light weight and extra sales appeal

Here's one good way to hold down the weight of products you're designing—replace a heavy casting or forging with a Hackney Deep Drawn Shape or Shell. Lightweight Hackney parts not only save weight—they often eliminate costly welding and machining operations as well. And they give your products extra sales appeal, too, through greater strength and durability, smart appearance and lower costs.

Ask Hackney engineers to help you with your design problems. They're backed by our 50 years of specialized experience in cold drawing. Write us today for additional information.

PRESSED STEEL TANK COMPANY
Manufacturer of Hackney Products
1449 S. 66th St., Milwaukee 14
1322 Vanderbilt Commerce Bldg., New York 17
253 Nasna Bldg., Cleveland 15
936 W. Peachtree St., N. W., Rm. 136, Atlanta 1
208 S. LaSalle St., Room 706, Chicago 4
577 Roosevelt Bldg., Los Angeles 14

Hackney

CONTAINERS FOR GASES, LIQUIDS AND SOLIDS

BREVITY—identify by IEN-2125 if you write the maker

clean-up

Sprinkle Metso 66 on greasy concrete that has been wet. Brush, flush and there—concrete is clean, grease-free, non-slippery.

Stubborn grease and oil in the concrete pores are lifted to the surface. After several Metso washings, clean-up is easier because grease no longer soaks into the concrete.

Send for free sample and instruction folder.

Philadelphia Quartz Company
1131 Public Ledger Bldg., Phila. 6, Pa.

METSO *detergents*

BREVITY—Identify by IEN - 2126 if you write the maker

KRITZER
Commercial
"FIN PIPE"
COILS

- For truly modern heating at lowest cost
- No guesswork about selection
- Installation is simple as ABC
- Sizes, cover styles for every need

Get the Facts! — Kritzer offers the most complete and authoritative data on finned-pipe heating in the industry. Write for Engineering Manual 50-CE.

KRITZER RADIANT COILS, INC.
2909 W. Lawrence Ave., Chicago 25, Ill.

If it's Kritzer, it's right, Sir!!

BREVITY—Identify by IEN - 2127 if you write the maker

Convince Yourself WITH THIS TEST!

See How VOLAX Removes Printing Ink COMPLETELY without Irritating Skin!

1 Ask a pressman to dip his hands in printing ink — it's stubborn . . . hard to remove.

2 Have him use VOLAX Hand Cleaner—ink's off in a jiffy—and safely too!

Your DOLGE Service Man will be glad to demonstrate

VOLAX is designed for heavy-duty skin cleaning. It contains mild soaps, water softener and friable volcanic ash . . . removes ground-in printer's ink with a gentle, non-irritating action. VOLAX is the specific cleaner for tough, ground-in dirt and ink discoloration.

VOLAX
dependable
DOLGE
WESTPORT, CONNECTICUT

BREVITY—Identify by IEN - 2128 if you write the maker

HOW TO BUILD THE PUMP INTO YOUR OWN EQUIPMENT

...with TUTHILL Stripped Pumps

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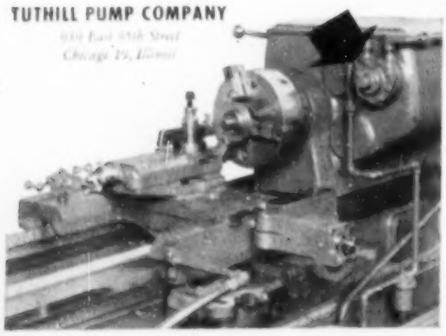

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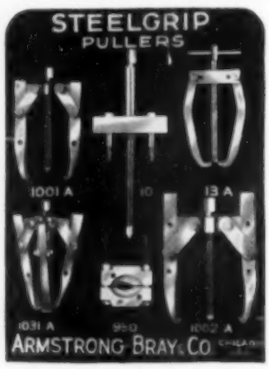

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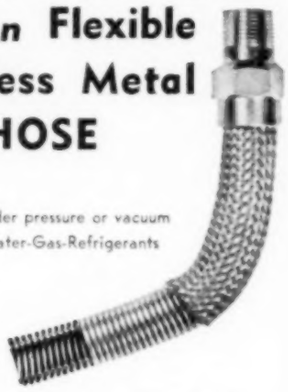

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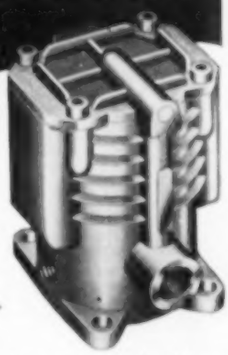

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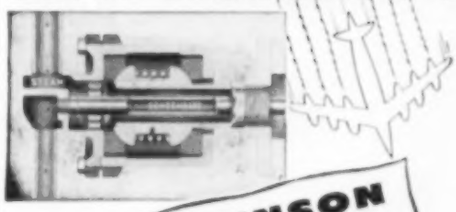

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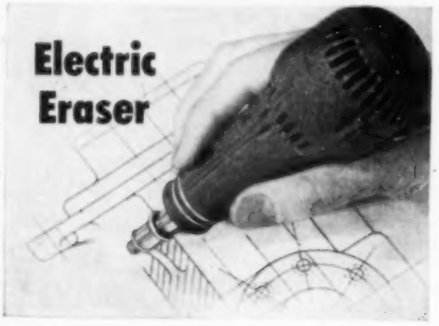

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It is published to invite your suggestions and comments, which are forwarded immediately to the originator, just as we will be happy to publish similar problems for you.

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Bifurcator Roof Ventilators exhaust fumes from plating tank operation. Photo courtesy General Electric Company.

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